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OM protein - protein search, using sw model

Run on: March 3, 2004, 07:50:54 ; Search time 47.7108 Seconds  
(without alignments)  
651.429 Million cell updates/sec

Title: us-09-852-261-2

Perfect score: 598  
Sequence: 1 GPEPLCGAELVDALQVCGD.....STNRKTKSQRRKGFEEHK 110

Scoring table: BLOSUM62  
Gapop 10.0, Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%  
Listing first 45 summaries

Database: A\_Geneseq\_29Jan04:\*

1: Geneseqp1980s:\*\n2: Geneseqp1990s:\*\n3: Geneseqp2000s:\*\n4: Geneseqp2001s:\*\n5: Geneseqp2002s:\*\n6: Geneseqp2003as:\*\n7: Geneseqp2003bs:\*\n8: Geneseqp2004s:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	598	100.0	110	4	AAE02447 Human IGF
2	598	100.0	110	5	AAU10559 Human mec
3	598	100.0	110	7	ABR63167 Human mec
4	572.5	95.7	111	4	AAE02449 Rabbit IG
5	572.5	95.7	111	5	AAU10561 Rabbit me
6	572.5	95.7	111	7	ABR63169 Rabbit me
7	572.5	95.7	121	2	AAW23301 Rabbit in
8	560	93.6	195	1	AAp70277 Sequence
9	521.5	87.2	133	6	ABP58085 Mouse ins
10	521.5	87.2	133	7	ADA23374 Mouse MGF
11	494.5	82.7	111	4	AAE02448 Rat IGF-I
12	494.5	82.7	111	5	AAU10560 Rat mecha
13	494.5	82.7	111	7	ABR63166 Rat mecha
14	494	82.6	181	7	ADBS7466 Rat prote
15	468	78.3	105	4	AAE02450 Human liv
16	468	78.3	105	5	AAU10562 Human liv
17	468	78.3	105	7	ABR63170 Human ins
18	468	78.3	137	4	AAU09067 Human ins
19	468	78.3	153	2	AAAR83803 Insulin-1
20	468	78.3	153	2	AAW67733 Human IGF
21	468	78.3	153	2	AAW57882 Human IGF
22	468	78.3	153	5	AAU84284 Human end
23	468	78.3	153	6	AAU84341 Protein I
24	468	78.3	153	6	ADA26451 Human ins
25	468	78.3	153	7	ADCS9343 Human ins

26	468	78.3	153	7	ADD25494 Binding d
27	468	78.3	156	2	AAW23302 Human ins
28	465	77.8	105	4	AAE02452 Rabbit in
29	465	77.8	105	5	AAU10564 Rabbit in
30	462	77.3	105	7	ABR63172 Rabbit in
31	461	77.1	119	1	AAPE0578 Human pre
32	459	76.8	105	4	AAE02456 Rabbit in
33	459	76.8	154	2	AAAR40844 Goat insu
34	457.5	76.5	191	2	AAAE4068 Chimeric
35	457.5	76.5	191	5	AAE24881 Yeast alp
36	450	75.3	153	7	ADD47095 Rat prote
37	447	74.7	127	7	ADAR3373 Mouse ins
38	443	70.7	105	4	AAE02531 Rat liver
39	423	70.7	105	4	AAE02451 Rat insul
40	423	70.7	105	5	AAU10563 Rat liver
41	423	70.7	105	7	ABR63171 Rat liver
42	412	68.9	78	3	AAV98482 Pep 17 us
43	412	68.9	78	3	AAV59027 Peptide 1
44	412	68.9	78	4	AAE45835 Nucleic a
45	412	68.9	78	4	AAU04272 Nuclear 1

## ALIGNMENTS

RESULT 1

AAE02447 standard; protein: 110 AA.

AC AAE02447;

DT 10-AUG-2001 (first entry)

DE Human IGF-I isoform mechano-growth factor (MGF) protein.

XX Human IGF-I isoform; Insulin-like Growth Factor-I; MGF;

XX mechano-growth factor; neurological disorder; neurodegenerative disorder;

XX amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;

XX poliomyelitis; post-polio syndrome; toxin; motoneuron disease;

XX nerve damage; autosomal muscular dystrophy; diabetic neuropathy;

XX sex-linked muscular dystrophy; peripheral neuropathy;

XX Alzheimer's disease; Parkinson's disease.

XX Homo sapiens.

XX WO200136483-A1.

XX 25-MAY-2001.

XX 15-NOV-2000; 2000MO-GB004354.

XX 15-NOV-1999; 99GB-00026968.

XX (UNIT) UNIT COLLEGE LONDON.

XX Goldspink G, Johnson I;

XX WPI; 2001-355620/37.

XX N-PSDB; AAD06358.

XX Use of mechano-growth factor, an isoform of Insulin-like Growth Factor-I,

XX capable of reducing motoneuron loss, in the manufacture of a medicament

XX for the treatment of neurological disorder.

XX Claim 4, Page 50-51; 66pp; English.

XX The present invention relates to use of mechano-growth factor (MGF), an

XX Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a

XX medicament for the treatment of neurological disorder. The MGF is capable

XX of reducing motoneuron loss by 20% or greater in response to nerve

XX avulsion, and effects motoneuron rescue, preferably adult motoneuron

XX rescue. The MGF polynucleotide and polypeptide are useful in the

XX manufacture of a medicament for the treatment of a neurological disorder,

CC including a disorder of motoneurons and/or neurodegenerative disorder,  
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive  
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,  
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a  
 CC toxin, motoneuron trauma, a motoneuron lesion or nerve damage; an  
 CC injury that affects motoneurons, motoneuron loss associated with aging,  
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,  
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease. The  
 CC present sequence is human IGF-I isoform MGF. MGF is a muscle isoform  
 CC having extracellular (EC) domain, hence also referred as IGF-I-EC. The  
 CC MGF protein comprises amino acid sequences encoded by nucleic acid  
 CC sequence of IGF-I exons 4, 5 and 6 in the reading frame of MGF  
 CC  
 CC Sequence 110 AA;

Query Match 100.0%; Score 598; DB 4; Length 110;  
 Best Local Similarity 100.0%; Pred. No. 66-54;  
 Matches 110; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAEVDALQFVGDRGFYFNKPTGYGSSSRAPQTGIVDECCFSCDLRLLEY 60  
 DB 1 GPEITCGAEVDALQFVGDRGFYFNKPTGYGSSSRAPQTGIVDECCFSCDLRLLEY 60  
 QY 61 CAPLKPAAKSARSVAQRHTDMPKTKQKOPSTNTKTSQRKSGSTFEERK 110  
 DB 61 CAPLKPAAKSARSVAQRHTDMPKTKQKOPSTNTKTSQRKSGSTFEERK 110

## RESULT 2

AAU10559 standard; protein: 110 AA.

AAU10559;

25-FEB-2002 (first entry)

Human mechano growth factor (MGF) polypeptide.

Human mechano growth factor; insulin-like growth factor I; IGF-I; MGF;  
 neuroprotective; nerve damage; peripheral nervous system; nerve severing;  
 muscle; neurological disorder; motoneuron loss; motoneuron disorder;  
 nerve avulsion.

Homo sapiens.

MO200185781-A2.

15-NOV-2001.

10-MAY-2001; 2001WO-GB002054.

10-MAY-2000; 2000GB-00011278.

(UNLO) UNIV COLLEGE LONDON.

(EGRI-) EAST GRINSTEAD MEDICAL RES TRUST.

Goldspink G, Terenghi G;

WPI, 2002-055585/07.

N-PSDB; AAS18877.

Use of insulin-like growth factor-I (IGF-I) isoform known as mechano  
 growth factor which is encoded by IGF-I exons 4,5,6 and has ability to  
 reduce motoneuron loss in response to nerve avulsion, to treat nerve  
 damage.

Claim 11; Fig 5; 65pp; English.

The invention relates to the use of an insulin-like growth factor I (IGF-I) isoform, known as mechano-growth factor (MGF), in the manufacture of a medicament for treating nerve damage in the peripheral nervous system, or for treating nerve damage by localising MGF at the site of damage. The nerve damage may include severing of a nerve. The treatment may be

CC combined with another treatment (such as a polypeptide growth factor  
 CC other than MGF) that prevents or diminishes degeneration of the target  
 CC organ (for example, muscle) which the damaged nerve innervates, whereby  
 CC the treatment of the muscle with MGF or a polynucleotide encoding MGF  
 CC prevents or diminishes degeneration. The method is useful for treating  
 CC neurological disorders, preferably motoneuron disorders. These methods  
 CC can reduce motoneuron loss by 20% or greater in response to nerve  
 CC avulsion. This sequence represents the human MGF polypeptide  
 CC  
 CC Sequence 110 AA;

Query Match 100.0%; Score 598; DB 5; Length 110;  
 Best Local Similarity 100.0%; Pred. No. 66-54;  
 Matches 110; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAEVDALQFVGDRGFYFNKPTGYGSSSRAPQTGIVDECCFSCDLRLLEY 60  
 DB 1 GPEITCGAEVDALQFVGDRGFYFNKPTGYGSSSRAPQTGIVDECCFSCDLRLLEY 60  
 QY 61 CAPLKPAAKSARSVAQRHTDMPKTKQKOPSTNTKTSQRKSGSTFEERK 110  
 DB 61 CAPLKPAAKSARSVAQRHTDMPKTKQKOPSTNTKTSQRKSGSTFEERK 110

## RESULT 3

ABR63167 standard; protein: 110 AA.

ABR63167;

18-DEC-2003 (first entry)

Human mechano growth factor (C-terminal end).

Mechano growth factor; MGF; insulin-like growth factor 1; human;  
 splice variant; cardiac; vasotropic; gene therapy.

Homo sapiens.

WO2003066082-A1.

14-AUG-2003.

06-FEB-2003; 2003WO-GB000537.

07-FEB-2002; 2002GB-00002906.

(UNLO) UNIV COLLEGE LONDON.

(UNIT) UNIV ILLINOIS FOUNO.

Goldspink G, Goldspink P;

WPI; 2003-636936/60.

N-PSDB; ACF79635.

Use of Mechano Growth Factor polypeptide or polynucleotide for preventing  
 or limiting apoptosis in the myocardium, particularly for preventing or  
 limiting myocardial damage in response to ischemia or mechanical overload  
 of the heart.

Claim 5; Fig 7; 74pp; English.

The present sequence is that of the C-terminal end of novel human mechano  
 growth factor (MGF), encoded by exons 3-6 of the IGF-I gene. MGF is a  
 splice variant and non-liver type isoform of insulin-like growth factor  
 (IGF-I) that is activated in response to cardiac tissue damage and which  
 has a repair function in the ischemic and/or overloaded heart. The human  
 MGF transcript has a 49 base insert in the 3' domain that alters the  
 reading frame and hence the C-terminal end of MGF protein in comparison  
 with other IGF-I splice variants. The invention provides use of a MGF  
 polypeptide or polynucleotide in the manufacture of a medicament for the  
 prevention or limitation of myocardial damage in response to ischemia or  
 mechanical overload of the heart by preventing or limiting apoptosis in

CC the myocardium. The MGF polypeptide, polynucleotide or medicament is also  
 CC useful for administration in response to a heart attack  
 XX  
 CC Sequence 110 AA;

Query Match 100.0%; Score 598; DB 7; Length 110;  
 Best Local Similarity 100.0%; Pred. No. 6e-54;  
 Matches 110; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

CC 1 GPEITCGAEIVDALQVCGDRGFYFNKPTGYGSSRRAPQGIYDECCFRSCDRLREMY 60  
 DB 1 GPEITCGAEIVDALQVCGDRGFYFNKPTGYGSSRRAPQGIYDECCFRSCDRLREMY 60

CC 61 CAPLKPASARSVRAQRHTDMPKTKYOPPSITNKTKSQ-RRKGSSTFEHK 110  
 DB 61 CAPLKPASARSVRAQRHTDMPKTKYOPPSITNKTKSQ-RRKGSSTFEHK 110

RESULT 4  
 AAE02449  
 ID AAE02449 standard; protein; 111 AA.

AC AAE02449;  
 XX  
 DT 10-AUG-2001 (first entry)

DE Rabbit IGF-I isoform mechano-growth factor (MGF) protein.

XX Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;  
 KM mechano-growth factor; neurological disorder; neurodegenerative disorder;  
 KM amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;  
 KM poliomyelitis; post-polio syndrome; toxin; motoneuron disorder;  
 KM nerve damage; autosomal muscular dystrophy; diabetic neuropathy;  
 KM sex-linked muscular dystrophy; peripheral neuropathy;  
 KM Alzheimer's disease; Parkinson's disease.

OS Oryctolagus cuniculus.

XX WO200136483-A1.

XX 25-MAY-2001.

XX 15-NOV-2000; 2000WO-GB004354.

XX 15-NOV-1999; 99GB-00026968.

XX (UNIC) UNIV COLLEGE LONDON.

XX Goldspink G, Johnson I;

XX WPI; 2001-355620/37.

XX N-PSDB; AAD06400.

PT Use of mechano-growth factor, an isoform of Insulin-like Growth Factor-I,  
 PT capable of reducing motoneuron loss, in the manufacture of a medicament  
 PT for the treatment of neurological disorder.

PS Claim 4; Page 54; 66pp; English.

XX The present invention relates to use of mechano-growth factor (MGF), an  
 CC Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a  
 CC medicament for the treatment of neurological disorder. The MGF is capable  
 CC of reducing motoneuron loss by 20% or greater in response to nerve  
 CC avulsion, and effects motoneuron rescue, preferably adult motoneuron  
 CC rescue. The MGF polynucleotide and polypeptide are useful in the  
 CC manufacture of a medicament for the treatment of a neurological disorder,  
 CC including a disorder of motoneurons and/or neurodegenerative disorder,  
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive  
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,  
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a  
 CC toxin, motoneuron trauma, a motoneuron lesion or nerve damage, an  
 CC injury that affects motoneurons, motoneuron loss associated with aging,  
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,

CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease. The  
 CC present sequence is rabbit IGF-I isoform MGF. MGF is a muscle isoform  
 CC having extracellular (EC) domain, hence also referred as IGF-I-EC. The  
 CC MGF protein comprises amino acid sequences encoded by nucleic acid  
 CC sequence of IGF-I exons 4, 5 and 6 in the reading frame of MGF

XX Sequence 111 AA;

Query Match 95.7%; Score 572.5; DB 4; Length 111;  
 Best Local Similarity 96.4%; Pred. No. 2.6e-51;  
 Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

CC 1 GPEITCGAEIVDALQVCGDRGFYFNKPTGYGSSRRAPQGIYDECCFRSCDRLREMY 60  
 DB 1 GPEITCGAEIVDALQVCGDRGFYFNKPTGYGSSRRAPQGIYDECCFRSCDRLREMY 60

CC 61 CAPLKPASARSVRAQRHTDMPKTKYOPPSITNKTKSQ-RRKGSSTFEHK 110  
 DB 61 CAPLKPASARSVRAQRHTDMPKTKYOPPSITNKTKSQ-RRKGSSTFEHK 111

RESULT 5  
 AAU10561  
 ID AAU10561 standard; protein; 111 AA.

XX AAU10561;

DT 25-FEB-2002 (first entry)

DE Rabbit mechano-growth factor (MGF) polypeptide.

XX Rabbit; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;  
 KM neuroprotective; nerve damage; peripheral nervous system nerve severing;  
 KM muscle; neurological disorder; motoneuron loss; motoneuron disorder;  
 KM nerve avulsion.

OS Oryctolagus cuniculus.

XX WO200185781-A2.

XX 15-NOV-2001.

XX 10-MAY-2001; 2001WO-GB002054.

XX 10-MAY-2000; 2000GB-00011278.

XX (UNIC) UNIV COLLEGE LONDON  
 XX (EGRT-) EAST GRINSTEAD MEDICAL RES TRUST.

XX Goldspink G, Terenghi G;

XX WPI; 2002-055585/07.

XX N-PSDB; AAS16879.

PT Use of Insulin-like growth factor-I (IGF-I) isoform known as mechano  
 PT growth factor which is encoded by IGF-I exons 4, 5, 6 and has ability to  
 PT reduce motoneuron loss in response to nerve avulsion, to treat nerve  
 PT damage.

PS Claim 11; Fig 7; 65pp; English.

XX The invention relates to the use of an insulin-like growth factor I (IGF-  
 CC I) isoform, known as mechano-growth factor (MGF), in the manufacture of a  
 CC medicament for treating nerve damage in the peripheral nervous system, or  
 CC for treating nerve damage by localising MGF at the site of damage. The  
 CC nerve damage may include severing of a nerve. The treatment may be  
 CC combined with another treatment (such as a polypeptide growth factor  
 CC other than MGF) that prevents or diminishes degeneration of the target  
 CC organ (for example, muscle) which the damaged nerve innervates, whereby  
 CC the treatment of the muscle with MGF or a polynucleotide encoding MGF  
 CC prevents or diminishes degeneration. The method is useful for treating  
 CC neurological disorders, preferably motoneuron disorders. These methods  
 CC can reduce motoneuron loss by 20% or greater in response to nerve

CC avulsion. This sequence represents the rabbit MGF polypeptide  
XX Sequence 111 AA;

Query Match 95.7%; Score 572.5; DB 5; Length 111;  
Best Local Similarity 96.4%; Pred. No. 2.6e-51;  
Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

QY 1 GPEITLGAELVDALQFVCGDGRGFYFNKPTGTGSSSRAPQGTIVDECCFRSCDRLRLMY 60  
DB 1 GPEITLGAELVDALQFVCGDGRGFYFNKPTGTGSSSRAPQGTIVDECCFRSCDRLRLMY 60

QY 61 CAPLKPAAKASVRAQRHTDMPKTOKYOPSTNNKTSQ-RRKSTFEERK 110  
DB 61 CAPLKPAAKASVRAQRHTDMPKTOKYOPSTNNKTSQ-RRKSTFEERK 111

RESULT 6  
ABR63169 standard; protein, 111 AA.

AC ABR63169;  
DT 18-DEC-2003 (first entry)  
DE Rabbit mechano growth factor (C-terminal end).

KW Mechano growth factor; MGF; insulin-like growth factor 1; rabbit;  
KM splice variant; cardiant; vasotropic; gene therapy.

OS Oryctolagus cuniculus.

XX WO200306082-A1.

XX 14-AUG-2003.

XX 06-FEB-2003; 2003WO-GB000537.

XX 07-FEB-2002; 2002GB-00002906.

PA (UNITO ) UNIV COLLEGE LONDON.  
PA (UNIT ) UNIV ILLINOIS POUND.

XX Goldspink G, Goldspink P;

XX WPI; 2003-636936/60.

DR N-PSDB; ACF79637.

PT Use of Mechano Growth Factor polypeptide or polynucleotide for preventing  
PT or limiting apoptosis in the myocardium, particularly for preventing or  
PT limiting myocardial damage in response to ischemia or mechanical overload  
PT of the heart.

PS Claim 5; Fig 9; 74pp; English.

CC The present sequence is that of the C-terminal end of novel rabbit  
CC mechano growth factor (MGF), encoded by exons 3-6 of the IGF-1 gene. MGF  
CC is a splice variant and non-liver type isoform of insulin-like growth  
CC factor (IGF-1) that is activated in response to cardiac tissue damage and  
CC which has a repair function in the ischaemic and/or overloaded heart. The  
CC rabbit MGF transcript has a 52 base insert in the E domain that alters  
CC the reading frame and hence the C-terminal end of MGF protein in  
CC comparison with other IGF-1 splice variants. The invention provides use  
CC of a MGF polypeptide or polynucleotide in the manufacture of a medicament  
CC for the prevention or limitation of myocardial damage in response to  
CC ischaemia or mechanical overload of the heart by preventing or limiting  
CC apoptosis in the myocardium. The MGF polypeptide, polynucleotide or  
CC medicament is also useful for administration in response to a heart  
CC attack

XX Sequence 111 AA;

Query Match 95.7%; Score 572.5; DB 7; Length 111;

Best Local Similarity 96.4%; Pred. No. 2.6e-51;  
Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

QY 1 GPEITLGAELVDALQFVCGDGRGFYFNKPTGTGSSSRAPQGTIVDECCFRSCDRLRLMY 60  
DB 1 GPEITLGAELVDALQFVCGDGRGFYFNKPTGTGSSSRAPQGTIVDECCFRSCDRLRLMY 60

QY 61 CAPLKPAAKASVRAQRHTDMPKTOKYOPSTNNKTSQ-RRKSTFEERK 110  
DB 61 CAPLKPAAKASVRAQRHTDMPKTOKYOPSTNNKTSQ-RRKSTFEERK 111

RESULT 7  
AAW23301 standard; protein, 121 AA.

AC AAW23301;

DT 14-APR-1998 (first entry)

DE Rabbit insulin like growth factor 1.

KW Insulin like growth factor 1; IGF-1; Ec peptide; muscle disorder; heart;  
KM neuromuscular disease.

OS Oryctolagus cuniculus.

XX WO9733997-A1.

XX 18-SEP-1997.

XX 11-MAR-1997; 97WO-GB000658.

XX 11-MAR-1996; 96GB-00005124.

PA (UNITO ) ROYAL FREE HOSPITAL SCHOOL MED.

XX Goldspink G;

XX WPI; 1997-470877/43.

DR N-PSDB; AAT84893.

PT Use of insulin like growth factor I characterised by presence of Ec  
PT peptide - to treat humans or animals, particularly muscle disorders,  
PT heart conditions or neuromuscular diseases.

PS Disclosure; Fig 3; 33pp; English.

CC A use of insulin like growth factor I (IGF-1) has been developed, and is  
CC characterised by the presence of the Ec peptide, or a functional  
CC equivalent, in the treatment or therapy of a human or animal. The IGF-1  
CC polypeptide can be used to treat muscular disorders, e.g. Duchenne or  
CC Becker muscular dystrophy, autosomal dys trophies and related progressive  
CC skeletal muscle weakness and wasting, muscle atrophy in ageing humans,  
CC spinal cord injury induced muscle atrophy and neuromuscular diseases, and  
CC cardiac disorders, e.g. diseases where promotion of cardiac muscle  
CC protein synthesis is a beneficial treatment, cardiomyopathies and acute  
CC heart failure or insult, specifically myocarditis or myocardial  
CC infarction. It can also be used to promote bone fracture healing and  
CC maintenance of bone in old age. The present sequence represents rabbit  
CC IGF-1 used in the present specification

XX Sequence 121 AA;

Query Match 95.7%; Score 572.5; DB 2; Length 121;  
Best Local Similarity 96.4%; Pred. No. 2.9e-51;  
Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

QY 1 GPEITLGAELVDALQFVCGDGRGFYFNKPTGTGSSSRAPQGTIVDECCFRSCDRLRLMY 60  
DB 11 GPEITLGAELVDALQFVCGDGRGFYFNKPTGTGSSSRAPQGTIVDECCFRSCDRLRLMY 70

QY 61 CAPLKPAAKASVRAQRHTDMPKTOKYOPSTNNKTSQ-RRKSTFEERK 110

Db 71 CAPLKPAAKARSVRAQRTHTDMPKTOKTQPPSTINKMKMSQRRRKSTFEERK 121  
RESULT 8  
ID AAP70277 standard; protein; 195 AA.  
XX AAP70277;  
AC AAP70277;  
DT 25-MAR-2003 (revised)  
DT 05-APR-1991 (first entry)  
XX  
XX Sequence of pre-pro-insulin-like growth factor 1B (ppIGF-1B).  
DE Growth promoter; lactation enhancer; cell proliferation.  
KM Homo sapiens.  
OS Homo sapiens.  
XX  
XX EP229750-A.  
XX  
XX 22-JUL-1987.  
XX  
XX 06-JAN-1987; 87EP-00870001.  
XX  
XX 07-JAN-1986; 86US-00816662.  
PR 20-NOV-1986; 86US-00929671.  
XX  
XX (UNIM) UNIV WASHINGTON.  
XX  
XX Krievi GG, Rotwein PS;  
PI  
DR MPI; 1987-200203/29.  
XX  
XX New pre-pro-insulin-like growth factor-1 protein - cld. by recombinant  
PT DNA procedures for use as growth promoters for enhancing lactation, for  
PT stimulating cell proliferation etc.  
XX  
XX  
XX Claim 11; Fig 6; 59pp; English.  
XX  
XX A 42 base oligonucleotide corresponding to the DNA sequence encoding  
CC amino acids 10 to 23 of mature human IGF-I was synthesized (AA70437).  
CC The radiolabeled 42 mer was then employed to screen for IGF-I containing  
CC DNA sequences in a human liver cDNA library. Insulin-like growth factors  
CC -1A and -1B cDNAs were isolated from a human cDNA library by using  
CC lambda gt 11 (AA70435, AA70436). The human IGF-1 genomic gene was  
CC isolated and mapped. It encodes at least two preproinsulin-like growth  
CC factor-1 proteins. An essentially pure preproinsulin-like growth factor-1  
CC protein comprising the sequence of amino acids shown in Figure six is  
CC claimed (AAP70277). (Updated on 25-MAR-2003 to correct PA field.)  
XX  
XX  
XX Sequence 195 AA:  
SQ  
Query Match 93.6%; Score 560; DB 1; Length 195;  
Best Local Similarity 100.0%; Pred. No. 9.3e-50;  
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 GPEITCGAEIVDAIQFYCGDGRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDRLRLMY 60  
Db 49 GPEITCGAEIVDAIQFYCGDGRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDRLRLMY 108  
QY 61 CAPLKPAAKARSVRAQRTHTDMPKTOKTQPPSTINKMKMSQRRRKSTFEERK 103  
Db 109 CAPLKPAAKARSVRAQRTHTDMPKTOKTQPPSTINKMKMSQRRRK 151  
RESULT 9  
ID AAP58085 standard; protein; 133 AA.  
XX AAP58085;  
AC AAP58085;  
DT 07-MAR-2003 (first entry)  
XX

XX  
DE Mouse insulin-like growth factor IB.  
XX  
XX Insulin-like growth factor IB; IGF-1B; mouse; mRNA; assay;  
KW nucleic acid detection.  
XX  
XX Mus musculus.  
XX  
XX MO200297390-A2.  
XX  
XX  
XX 05-DEC-2002.  
XX  
XX  
XX 31-MAY-2002; 2002MO-SE001056.  
PF  
XX 01-JUN-2001; 2001SF-00001934.  
PR  
XX (BIOV-) BIOVITRUM AB.  
PA  
XX Parrow V, Rosengren L;  
PI  
XX MPI: 2003-129529/12.  
DR  
XX N-PSDB; ABV76185.  
DR  
XX  
XX Quantitating a target nucleic acid in a sample comprises immobilizing, on  
PT a solid support, a sample comprising a target nucleic acid, and detecting  
PT and quantitating signals generated from the antisense and sense probes.  
XX  
XX Example 1; Page 17; 18pp; English.  
XX  
XX The present sequence is the protein sequence of murine insulin-like  
CC growth factor IB (IGF-1B). IGF-1B cDNA was used in an example of the  
CC method of the invention to generate probes for determination of IGF-1B  
CC RNA. The method comprises a quantitative hybridisation assay for analysis  
CC of RNA in a target nucleic acid (TNA) sample. It involves: (i)  
CC immobilising the TNA sample on a solid support; (ii) contacting a  
CC labelled antisense probe to a first portion of the TNA, and a labelled  
CC sense probe to a second portion of the TNA; (iii) detecting and  
CC quantitating the signals generated from the hybridised probes; and (iv)  
CC determining the value represented by the antisense probe signal minus the  
CC sense probe signal, the value being proportional to the amount of RNA in  
CC the TNA sample. In an example of the method, a cDNA clone containing 60  
CC nucleotides from exon 2 and 179 nucleotides from exon 3 of the mouse IGF-  
CC IB gene was cloned into pGEM-4Z vector. Linearisation of the plasmid with  
CC EcoRI allowed transcription of a 250-nucleotide antisense probe using T7  
CC polymerase. Linearisation with HindIII allowed transcription of a sense  
CC probe of similar length using SP6 polymerase (see ABV76186). The probes  
CC were purified and used to determine IGF-1 RNA in mouse hepatocytes and  
CC also in rat hepatocytes  
XX  
XX  
XX Sequence 133 AA:  
SQ  
Query Match 87.2%; Score 521.5; DB 6; Length 133;  
Best Local Similarity 89.2%; Pred. No. 5.8e-46;  
Matches 99; Conservative 2; Mismatches 9; Indels 1; Gaps 1;  
QY 1 GPEITCGAEIVDAIQFYCGDGRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDRLRLMY 60  
Db 23 GPEITCGAEIVDAIQFYCGDGRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDRLRLMY 82  
QY 61 CAPLKPAAKARSVRAQRTHTDMPKTOKTQPPSTINKMKMSQRRRKSTFEERK 110  
Db 83 CAPLKPAAKARSVRAQRTHTDMPKTOKTQPPSTINKMKMSQRRRKSTFEERK 133  
RESULT 10  
ID ADA23374 standard; protein; 133 AA.  
XX ADA23374;  
AC ADA23374;  
XX  
XX 20-NOV-2003 (first entry)  
DT  
XX Mouse WGF amino acid sequence.  
DE

XX 11gand; antibody; mechano-growth factor; MGF; inotropic; cardiant;  
 KW cell signaling; muscle damage; muscular dystrophy; cardiac muscle damage;  
 KM muscle fatigue; heart attack.  
 XX Mus sp.  
 OS WO2003068949-A1.  
 PN 21-AUG-2003.  
 PD 14-FEB-2003; 2003WO-GB000657.  
 PF 14-FEB-2002; 2002GB-00003552.  
 PR 14-FEB-2002; 2002GB-00003552.  
 PA (BEAU/) BEAUMONT N.  
 PI Beaumont N;  
 PS WPI; 2003-679637/64.  
 DR New peptides corresponding to the C terminus of creatine kinase have a  
 PT similar function to mechano-growth factor and are useful to treat muscle  
 PT damage such as exercise injury, muscular dystrophy and heart attack  
 PT damage.  
 PS Disclosure; Fig 1; 21pp; English.  
 PS The present invention describes an isolated peptide capable of acting as  
 CC a ligand for an antibody with affinity for the C-terminus of mechano-  
 CC growth factor (MGF), for use in therapy, where the peptide is not MGF.  
 CC Also described is an isolated peptide for use in therapy comprising the  
 CC sequence (I) (X1)m(X2)n(X3)G(X4)(X5)(X6)(X7)2(X8)p, where X1 = a basic  
 CC residue, X2 and X8 = any amino acid, X3 and X4 = Lys or Gln, X5 = Ser,  
 CC Thr, Ala or Pro, X6 = Ile, Phe or Leu, X7 = Asp or Glu, m = 2 or 3, n = 0  
 CC -2, and p = 2-6. (I) has inotropic and cardiant activities, and can be  
 CC used in cell signaling. (I) can be used for the manufacture of a  
 CC composition for the treatment of muscle damage, deterioration or injury,  
 CC particularly damage to skeletal muscle, especially muscular dystrophy or  
 CC damage to cardiac muscle, and to manufacture a composition for the repair  
 CC of damage or loss of nerve cells. The peptide can be used in cell culture  
 CC media to promote growth of muscle or nerve cell lines. The peptides are  
 CC used to treat conditions associated with muscle fatigue and/or injury for  
 CC example during exercise, and to treat muscle deterioration or damage for  
 CC example after a heart attack. They may be useful to identify agents that  
 CC potentiate or inhibit muscle or nerve cell growth, as a treatment to  
 CC promote growth or repair of muscle or nerve cells in vivo and to inhibit  
 CC apoptosis of precursor cells. The present sequence represents a mouse MGF  
 CC amino acid sequence, which is given in comparison with mouse insulin  
 CC growth factor 1 (IGF1) in the exemplification of the present invention.  
 CC XX  
 SQ Sequence 133 AA;  
 Query Match 87.2%; Score 521.5; DB 7; Length 133;  
 Best Local Similarity 89.2%; Pred. No. 5, 8e-46;  
 Matches 99; Conservative 2; Mismatches 9; Indels 1; Gaps 1;  
 QY 1 GPEITLGAELVDALQFVCGDGRGFYFNKPTGYGSSSRAPDTGIYDECCFSSCDLRLEMY 60  
 DB 23 GPEITLGAELVDALQFVCGDGRGFYFNKPTGYGSSSRAPDTGIYDECCFSSCDLRLEMY 82  
 QY 61 CAPLKPAAKSARSVAORHTDMPKTKQOPSTNTKNTSQ-RRKSGTFEEHK 110  
 DB 83 CAPLKPAAKSARSVAORHTDMPKTKQSPSLSTNKTQLQRRKSGTFEEHK 133  
 RESULT 11  
 AAE02448  
 ID AAE02448 standard; protein; 111 AA.  
 XX AC AAE02448;  
 XX 10-AUG-2001 (first entry)

XX Rat IGF-I isoform mechano-growth factor (MGF) protein.  
 DE Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;  
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;  
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;  
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;  
 KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;  
 KW sex-linked muscular dystrophy; peripheral neuropathy;  
 KW Alzheimer's disease; Parkinson's disease.  
 XX Rattus sp.  
 OS WO200136483-A1.  
 PN 25-MAY-2001.  
 PD 15-NOV-2000; 2000WO-GB004354.  
 PF 15-NOV-1999; 99GB-00026968.  
 PR 15-NOV-1999; 99GB-00026968.  
 PA (UNLO ) UNITV COLLEGE LONDON.  
 PI Goldsprint G, Johnson I;  
 PS WPI; 2001-355620/37.  
 DR N-PSDB; AAD06399.  
 DR Use of mechano-growth factor, an isoform of Insulin-like Growth Factor-I,  
 PT capable of reducing motoneurone loss, in the manufacture of a medicament  
 PT for the treatment of neurological disorder.  
 PS Claim 4; Page 52; 66pp; English.  
 CC The present invention relates to use of mechano-growth factor (MGF), an  
 CC Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a  
 CC medicament for the treatment of neurological disorder. The MGF is capable  
 CC of reducing motoneurone loss by 20% or greater in response to nerve  
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone  
 CC rescue. The MGF polypeptide and polypeptide are useful in the  
 CC manufacture of a medicament for the treatment of a neurological disorder,  
 CC including a disorder of motoneurons and/or neurodegenerative disorder,  
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive  
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,  
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a  
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an  
 CC injury that affects motoneurons, motoneurone loss associated with aging,  
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,  
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease. The  
 CC present sequence is rat IGF-I isoform MGF. MGF is a muscle isoform having  
 CC extracellular (EC) domain, hence also referred as IGF-I-EC. The MGF  
 CC protein comprises amino acid sequences encoded by nucleic acid sequence  
 CC of IGF-I exons 4, 5 and 6 in the reading frame of MGF  
 CC XX  
 SQ Sequence 111 AA;  
 Query Match 82.7%; Score 494.5; DB 4; Length 111;  
 Best Local Similarity 85.6%; Pred. No. 3e-43;  
 Matches 95; Conservative 2; Mismatches 13; Indels 1; Gaps 1;  
 QY 1 GPEITLGAELVDALQFVCGDGRGFYFNKPTGYGSSSRAPDTGIYDECCFSSCDLRLEMY 60  
 DB 1 GPEITLGAELVDALQFVCGDGRGFYFNKPTGYGSSSRAPDTGIYDECCFSSCDLRLEMY 60  
 QY 61 CAPLKPAAKSARSVAORHTDMPKTKQOPSTNTKNTSQ-RRKSGTFEEHK 110  
 DB 61 CVRCKPTKSARSIRARHTDMPKTKQSPSLSTNKTQLQRRKSGTFEEHK 111  
 RESULT 12  
 AAU10560  
 ID AAU10560 standard; protein; 111 AA.  
 XX

AC AAU10560;  
 XX  
 XX 25-FEB-2002 (first entry)  
 DT  
 XX Rat mechano-growth factor (MGF) polypeptide.  
 DE  
 XX  
 XX Rat; mechano-growth factor; insulin-like growth factor I; IGF-I; MGF;  
 KW neuroprotective; nerve damage; peripheral nervous system; nerve severing;  
 KW muscle; neurological disorder; motoneuron loss; motoneuron disorder;  
 KW nerve avulsion.  
 XX  
 XX Rattus sp.  
 OS  
 XX WO200185781-A2.  
 PN  
 XX 15-NOV-2001.  
 PD  
 XX 10-MAY-2001; 2001WO-GB002054.  
 PF  
 XX 10-MAY-2000; 2000GB-00011278.  
 PR  
 XX (UNLO ) UNIV COLLEGE LONDON.  
 PA (ECRI-) EAST GRINSTEAD MEDICAL RES TRUST.  
 XX  
 XX Goldspink G, Terenghi G;  
 PI  
 XX WPI; 2002-055585/07.  
 DR N-PSDB; AAS16878.  
 XX  
 XX Use of insulin-like growth factor-I (IGF-I) isoform known as mechano  
 PT growth factor which is encoded by IGF-I exons 4,5,6 and has ability to  
 PT reduce motoneuron loss in response to nerve avulsion, to treat nerve  
 PT damage.  
 PS  
 PS Claim 11; Fig 6; 65pp; English.  
 XX  
 XX The invention relates to the use of an insulin-like growth factor I (IGF-  
 CC I) isoform, known as mechano-growth factor (MGF), in the manufacture of a  
 CC medicament for treating nerve damage in the peripheral nervous system, or  
 CC for treating nerve damage by localising MGF at the site of damage. The  
 CC nerve damage may include severing of a nerve. The treatment may be  
 CC combined with another treatment (such as a polypeptide growth factor  
 CC other than MGF) that prevents or diminishes degeneration of the target  
 CC organ (for example, muscle) which the damaged nerve innervates, whereby  
 CC the treatment of the muscle with MGF or a polynucleotide encoding MGF  
 CC prevents or diminishes degeneration. The method is useful for treating  
 CC neurological disorders, preferably motoneuron disorders. These methods  
 CC can reduce motoneuron loss by 20% or greater in response to nerve  
 CC avulsion. This sequence represents the rat MGF polypeptide  
 CC  
 XX  
 SQ Sequence 111 AA;  
 Query Match 82.7%; Score 494.5; DB 5; Length 111;  
 Best Local Similarity 85.6%; Pred. No. 3e-43;  
 Matches 95; Conservative 2; Mismatches 13; Indels 1; Gaps 1;  
 QY 1 GPEILCGAEVLDALQFVCGDGRGFYFNKPTGYGSSRRAPQGIYDECCFRSCDLRLRLMY 60  
 DB 1 GPEILCGAEVLDALQFVCGDGRGFYFNKPTGYGSSRRAPQGIYDECCFRSCDLRLRLMY 60  
 QY 61 CAPLPKASRSVRAQRHTDMPKTKQKQPPSTNNNTSQ-RRKSGTFPEEHK 110  
 DB 61 CVRCKPTKSARSIRAPHTDMPKTKQKQPPSTNNNTSQ-RRKSGTFPEEHK 111  
 QY 61 CAPLPKASRSVRAQRHTDMPKTKQKQPPSTNNNTSQ-RRKSGTFPEEHK 110  
 DB 61 CVRCKPTKSARSIRAPHTDMPKTKQKQPPSTNNNTSQ-RRKSGTFPEEHK 111  
 RESULT 13  
 ID ABR63168 standard; protein; 111 AA.  
 XX ABR63168;  
 AC  
 XX 18-DEC-2003 (first entry)  
 DT  
 XX

DE Rat mechano growth factor (C-terminal end).  
 XX  
 XX Mechano growth factor; MGF; insulin-like growth factor I; rat;  
 KW splice variant; cardiant; vasotropic; gene therapy.  
 XX  
 XX Rattus sp.  
 OS  
 XX WO2003066082-A1.  
 PN  
 XX 14-AUG-2003.  
 PD  
 XX 06-FEB-2003; 2003WO-GB000537.  
 PF  
 XX 07-FEB-2002; 2002GB-00002906.  
 PR  
 XX (UNLO ) UNIV COLLEGE LONDON.  
 PA (UNIL ) UNIV ILLINOIS FOUNO.  
 XX  
 XX Goldspink G, Goldspink P;  
 PI  
 XX WPI; 2003-636936/60.  
 DR N-PSDB; ACF79636.  
 XX  
 XX Use of Mechano Growth Factor polypeptide or polynucleotide for preventing  
 PT or limiting apoptosis in the myocardium, particularly for preventing or  
 PT limiting myocardial damage in response to ischemia or mechanical overload  
 PT of the heart.  
 PS  
 PS Claim 5; Fig 8; 74pp; English.  
 XX  
 XX The present sequence is that of the C-terminal end of novel rat mechano  
 CC growth factor (MGF), encoded by exons 3-6 of the IGF-I gene. MGF is a  
 CC splice variant and non-liver type isoform of insulin-like growth factor  
 CC (IGF-I) that is activated in response to cardiac tissue damage and which  
 CC has a repair function in the ischaemic and/or overloaded heart. The rat  
 CC MGF transcript has a 52 base insert in the B domain that alters the  
 CC reading frame and hence the C-terminal end of MGF protein in comparison  
 CC with other IGF-I splice variants. The invention provides use of a MGF  
 CC polypeptide or polynucleotide in the manufacture of a medicament for the  
 CC prevention or limitation of myocardial damage in response to ischemia or  
 CC mechanical overload of the heart by preventing or limiting apoptosis in  
 CC the myocardium. The MGF polypeptide, polynucleotide or medicament is also  
 CC useful for administration in response to a heart attack  
 CC  
 XX  
 SQ Sequence 111 AA;  
 Query Match 82.7%; Score 494.5; DB 7; Length 111;  
 Best Local Similarity 85.6%; Pred. No. 3e-43;  
 Matches 95; Conservative 2; Mismatches 13; Indels 1; Gaps 1;  
 QY 1 GPEILCGAEVLDALQFVCGDGRGFYFNKPTGYGSSRRAPQGIYDECCFRSCDLRLRLMY 60  
 DB 1 GPEILCGAEVLDALQFVCGDGRGFYFNKPTGYGSSRRAPQGIYDECCFRSCDLRLRLMY 60  
 QY 61 CAPLPKASRSVRAQRHTDMPKTKQKQPPSTNNNTSQ-RRKSGTFPEEHK 110  
 DB 61 CVRCKPTKSARSIRAPHTDMPKTKQKQPPSTNNNTSQ-RRKSGTFPEEHK 111  
 RESULT 14  
 ID ADE57466 standard; protein; 181 AA.  
 XX ADE57466;  
 AC  
 XX 29-JAN-2004 (first entry)  
 DT  
 XX Rat Protein P08024, SEQ ID NO 3327.  
 DE  
 XX Rat; pain; neuronal tissue; gene therapy; spinal segmental nerve injury;  
 KW chronic constriction injury; CCI; spared nerve injury; SNI; Chung.  
 XX  
 XX Rattus norvegicus.  
 OS



XX WO2003016475-A2.  
 XX 27-FEB-2003.  
 XX 14-AUG-2002; 2002MO-US025765.  
 XX 14-AUG-2001; 2001US-0312147P.  
 XX 01-NOV-2001; 2001US-0346382P.  
 XX 26-NOV-2001; 2001US-0333347P.  
 XX (GENO) GEN HOSPITAL CORP.  
 XX (FARB) BAYER AG.  
 XX Woolf C, D'urso D, Befort K, Costigan M;  
 XX WPI: 2003-268312/26.  
 XX GENBANK: P08024.  
 XX New composition comprising two or more isolated polypeptides, useful for  
 XX preparing a medicament for treating pain in an animal.  
 XX Claim 1; Page: 1017PD; English.  
 XX The invention discloses a composition comprising two or more isolated rat  
 XX or human polynucleotides or a polynucleotide which represents a fragment,  
 XX derivative or allelic variation of the nucleic acid sequence. Also  
 XX claimed are a vector comprising the novel polynucleotide, a host cell  
 XX comprising the vector, a method for identifying a nucleotide sequence  
 XX which is differentially regulated in an animal subjected to pain and a  
 XX kit to perform the method, an array, a method for identifying an agent  
 XX that increases or decreases the expression of the polynucleotide sequence  
 XX that is differentially expressed in neuronal tissue of a first animal  
 XX subjected to pain, a method for identifying a compound which regulates  
 XX the expression of a polynucleotide sequence which is differentially  
 XX expressed in an animal subjected to pain, a method for identifying a  
 XX compound that regulates the activity of one or more of the  
 XX polynucleotides, a method for producing a pharmaceutical composition, a  
 XX method for identifying a compound or small molecule that regulates the  
 XX activity in an animal of one or more of the polypeptides given in the  
 XX specification, a method for identifying a compound useful in treating  
 XX pain and a pharmaceutical composition comprising the one or more  
 XX polypeptides or their antibodies. The polynucleotide or the compound that  
 XX modulates its activity is useful for preparing a medicament for treating  
 XX pain (e.g. spinal segmental nerve injury (SNi)) in an animal (e.g. gene  
 XX injury (CCI) and spared nerve injury (SNI)) in an animal (shown in Table 2 of  
 XX therapy). The sequence presented is a rat protein (shown in Table 2 of  
 XX the specification) which is differentially expressed during pain. Note:  
 XX The sequence data for this patent did not form part of the printed  
 XX specification, but was obtained in electronic form directly from WIP0 at  
 XX ftp.wipo.int/pub/published\_pct\_sequences.  
 XX Sequence 181 AA;  
 XX  
 XX Query Match 82.6%; Score 494; DB 7; Length 181;  
 XX Best Local Similarity 84.4%; Pred. No. 5.6e-43;  
 XX Matches 92; Conservative 4; Mismatches 13; Indels 0; Gaps 0;  
 XX  
 XX QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYSSSRRAPOQTGIVDECCFRSCDLRLNMY 60  
 XX Db 49 GPEITCGAELVDALQFVCGDRGFYFNKPTGYSSSRRAPOQTGIVDECCFRSCDLRLNMY 108  
 XX QY 61 CAPLKPXKARSYVRAORHTDMPKTOX 109  
 XX Db 109 CAPLKPXKARSYVRAORHTDMPKTOX 157  
 XX  
 XX RESULT 15  
 XX AAE02450  
 XX ID AAE02450 standard; protein; 105 AA.  
 XX AC  
 XX AA02450;  
 XX

DT 10-AUG-2001 (first entry)  
 XX Human liver-type IGF-I isoform (L. IGF-I) protein.  
 XX Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;  
 XX mechano-growth factor; neurological disorder; neurodegenerative disorder;  
 XX amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;  
 XX polymyositis; post-polio syndrome; toxin; motoneuron disorder;  
 XX nerve damage; autosomal muscular dystrophy; diabetic neuropathy;  
 XX sex-linked muscular dystrophy; peripheral neuropathy;  
 XX Alzheimer's disease; Parkinson's disease; liver; L. IGF-I.  
 XX Homo sapiens.  
 XX WO200136483-A1.  
 XX 25-MAY-2001.  
 XX 15-NOV-2000; 2000MO-GB004354.  
 XX 15-NOV-1999; 99GB-00025966.  
 XX (UNLO) UNIV COLLEGE LONDON.  
 XX Goldespink G, Johnson I;  
 XX WPI: 2001-355620/37.  
 XX N-PSDB; AAD06403.  
 XX Use of mechano-growth factor, an isoform of Insulin-like Growth Factor-I,  
 XX capable of reducing motoneuron loss, in the manufacture of a medicament  
 XX for the treatment of neurological disorder.  
 XX Disclosure; Fig 8; 66pp; English.  
 XX The present invention relates to use of mechano-growth factor (MGF), an  
 XX Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a  
 XX medicament for the treatment of neurological disorder. The MGF is capable  
 XX of reducing motoneuron loss by 20% or greater in response to nerve  
 XX avulsion, and effects motoneuron rescue, preferably adult motoneuron  
 XX rescue. The MGF polynucleotide and polypeptide are useful in the  
 XX manufacture of a medicament for the treatment of a neurological disorder,  
 XX including a disorder of motoneurons and/or neurodegenerative disorder,  
 XX e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive  
 XX spinal muscular atrophy, infantile or juvenile muscular atrophy,  
 XX polymyositis or post-polio syndrome, a disorder caused by exposure to a  
 XX toxin, motoneuron trauma, a motoneuron lesion or nerve damage, an  
 XX injury that affects motoneurons, motoneuron loss associated with aging,  
 XX autosomal or sex-linked muscular dystrophy, diabetic neuropathy,  
 XX peripheral neuropathies, Alzheimer's disease and Parkinson's disease. The  
 XX present sequence is human liver-type IGF-I isoform (L. IGF-I). The L. IGF-I  
 XX protein comprises amino acid sequences encoded by nucleic acid sequence  
 XX of IGF-I exons 4 and 6  
 XX Sequence 105 AA;  
 XX  
 XX Query Match 78.3%; Score 468; DB 4; Length 105;  
 XX Best Local Similarity 100.0%; Pred. No. 1.5e-40;  
 XX Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 XX  
 XX QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYSSSRRAPOQTGIVDECCFRSCDLRLNMY 60  
 XX Db 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYSSSRRAPOQTGIVDECCFRSCDLRLNMY 60  
 XX QY 61 CAPLKPXKARSYVRAORHTDMPKTOX 86  
 XX Db 61 CAPLKPXKARSYVRAORHTDMPKTOX 86  
 XX  
 XX Search completed: March 3, 2004, 07:53:36  
 XX Job time : 50.7108 secs



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OM protein - protein search, using sw model

Run on: March 3, 2004, 07:53:43 ; Search time 13.9157 Seconds  
(without alignments)  
408.091 Million cell updates/sec

Title: US-09-852-261-2

Perfect score: 598  
Sequence: 1 GPEITCGALVDALQFVCGD.....STNKTKGQRKGTFFBHK 110

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Database :

Issued Patents AA:\*  
1: /cgm2\_6/prodata/2/1aa/5A\_COMB.pep:\*  
2: /cgm2\_6/prodata/2/1aa/5A\_COMB.pep:\*  
3: /cgm2\_6/prodata/2/1aa/5A\_COMB.pep:\*  
4: /cgm2\_6/prodata/2/1aa/5A\_COMB.pep:\*  
5: /cgm2\_6/prodata/2/1aa/5A\_COMB.pep:\*  
6: /cgm2\_6/prodata/2/1aa/5A\_COMB.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	572.5	95.7	121	3	US-09-142-583A-4
2	468	78.3	137	1	US-07-953-230A-10
3	468	78.3	152	3	US-08-950-720A-9
4	468	78.3	153	1	US-08-219-878A-1
5	468	78.3	153	5	PCT-US93-04329-1
6	468	78.3	156	3	US-09-142-583A-11
7	461	77.1	119	6	5405942-1
8	457.5	76.5	191	3	US-08-989-251-41
9	457.5	76.5	191	3	US-08-989-251-41
10	457.5	76.5	191	3	US-08-989-251-41
11	412	68.9	78	2	US-08-167-641C-47
12	412	68.9	78	2	US-08-167-641C-47
13	412	68.9	78	3	US-08-460-971A-47
14	412	68.9	78	3	US-08-460-971A-47
15	398	66.6	176	1	US-07-953-230A-9
16	385	64.4	953	4	US-09-255-829-14
17	385	64.4	953	4	US-09-255-829-14
18	385	64.4	953	4	US-09-255-829-14
19	385	64.4	953	4	US-09-255-829-14
20	385	64.4	953	4	US-09-255-829-14
21	385	64.4	953	4	US-09-255-829-14
22	385	64.4	953	4	US-09-255-829-14
23	385	64.4	953	4	US-09-255-829-14
24	385	64.4	953	4	US-09-255-829-14
25	385	64.4	953	4	US-09-255-829-14
26	385	64.4	953	4	US-09-255-829-14
27	385	64.4	953	4	US-09-255-829-14

28	385	64.4	70	4	US-09-723-896-1	Sequence 1, Appl
29	385	64.4	70	5	PCT-US92-09443A-1	Sequence 1, Appl
30	385	64.4	70	5	PCT-US93-11458-1	Sequence 1, Appl
31	385	64.4	70	5	PCT-US93-08925-1	Sequence 1, Appl
32	385	64.4	94	1	US-07-989-845-28	Sequence 12, Appl
33	385	64.4	94	1	US-07-989-845-28	Sequence 12, Appl
34	385	64.4	94	1	US-08-161-044-12	Sequence 12, Appl
35	385	64.4	94	1	US-08-240-121-12	Sequence 12, Appl
36	385	64.4	94	1	US-08-451-241-12	Sequence 12, Appl
37	385	64.4	94	5	PCT-US93-11297-12	Sequence 12, Appl
38	385	64.4	94	5	PCT-US93-11297-12	Sequence 12, Appl
39	385	64.4	118	3	US-09-029-267-14	Sequence 14, Appl
40	385	64.4	155	1	US-08-328-961-8	Sequence 8, Appl
41	385	64.4	155	1	US-08-462-397-8	Sequence 8, Appl
42	385	64.4	155	3	US-08-989-251-39	Sequence 39, Appl
43	385	64.4	155	3	US-08-989-251-39	Sequence 39, Appl
44	385	64.4	155	4	US-09-528-108-39	Sequence 39, Appl
45	382	63.9	70	1	US-08-180-572-5	Sequence 3, Appl

## ALIGNMENTS

RESULT 1  
US-09-142-583A-4  
Sequence 4, Application US/09142583A  
Patent No. 6221842

## GENERAL INFORMATION:

APPLICANT: GOLDSPIK, GEOFREY  
TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS  
NUMBER OF SEQUENCES: 11  
CORRESPONDENCE ADDRESSES:

ADDRESSEE: NIXON & VANDERHAYE P.C.  
STREET: 1100 NORTH GLEBE ROAD  
CITY: ARLINGTON

STATE: VA  
COUNTRY: USA

ZIP: 22201

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/142, 583A

FILING DATE: 29-Oct-1998

CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

APPLICATION NUMBER: WO PCT/GB97/00658

FILING DATE: 11-MAR-1997

APPLICATION NUMBER: GB 9605124.8

FILING DATE: 11-MAR-1996

ATTORNEY/AGENT INFORMATION:

NAME: SADOFF, B. J.

REGISTRATION NUMBER: 36663

REFERENCE/DOCKET NUMBER: 117-263

TELEPHONE: 7038164000

TELEFAX: 7038164100

INFORMATION FOR SEQ ID NO: 4:

SEQUENCE CHARACTERISTICS:

LENGTH: 121 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

SEQUENCE DESCRIPTION: SEQ ID NO: 4:

US-09-142-583A-4

Query Match 95.7% ; Score 572.5 ; DB 3 ; Length 121 ;

Best Local Similarity 96.4% ; Pred. No. 2.2e-60 ;

Matches 107 ; Conservative 1 ; Mismatches 2 ; Indels 1 ; Gaps 1 ;

QY 1 GPEITCGALVDALQFVCGDGFYFNKPGYSSRRAPQIVGECRSCDARLEMY 60

DB 11 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYSSSRRAFGTGVDECCFRSCDLRLMY 70  
QY 61 CAPLKPAKARSVRAQRHTDMPKTKYQYPPSTNKNTSQ-RRKSTPEEHK 110  
DB 71 CAPLKPAKARSVRAQRHTDMPKTKYQYPPSTNKNTSQRRKSTPEEHK 121

RESULT 2  
US-07-953-230A-10  
Sequence 10, Application US/07953230A  
Patent No. 5476779

GENERAL INFORMATION:  
APPLICANT: CHEN, Thomas T  
APPLICANT: SHAMLOTT, Michael J  
TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED  
TITLE OF INVENTION: FROM RAINBOW TROUT  
NUMBER OF SEQUENCES: 12  
CORRESPONDENCE ADDRESSES:  
ADDRESSER: Burns, Doane, Swecker & Mathis  
STREET: George Mason Bldg., Washington & Prince Sts.  
CITY: Alexandria  
STATE: Virginia  
COUNTRY: United States  
ZIP: 22113-1404

COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/07/953,230A  
FILING DATE: 30-SEP-1992

CLASSIFICATION: 435  
ATTORNEY/AGENT INFORMATION:  
NAME: Crane-Feury, Sharon E  
REGISTRATION NUMBER: 36,113  
REFERENCE/DOCKET NUMBER: 028755-010  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (703) 836-6620  
TELEFAX: (703) 836-2021

INFORMATION FOR SEQ ID NO: 10:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 137 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein

FEATURE:  
NAME/KEY: Peptide  
LOCATION: 7  
OTHER INFORMATION: /note= "Gap of 2 after 7."

FEATURE:  
NAME/KEY: Peptide  
LOCATION: 31  
OTHER INFORMATION: /note= "Gap of 1 after 31."

FEATURE:  
NAME/KEY: Peptide  
LOCATION: 116  
OTHER INFORMATION: /note= "Gap of 27 after 116."

US-07-953-230A-10

Query Match 78.3%; Score 468; DB 1; Length 137;  
Best Local Similarity 100.0%; Pred. No. 6.4e-48;  
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYSSSRRAFGTGVDECCFRSCDLRLMY 60  
DB 33 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYSSSRRAFGTGVDECCFRSCDLRLMY 92  
QY 61 CAPLKPAKARSVRAQRHTDMPKTKYQYPPSTNKNTSQ-RRKSTPEEHK 86  
DB 93 CAPLKPAKARSVRAQRHTDMPKTKYQYPPSTNKNTSQRRKSTPEEHK 118

RESULT 3  
US-08-950-720A-9  
Sequence 9, Application US/08950720A  
Patent No. 6046028

GENERAL INFORMATION:  
APPLICANT: Conklin, Darrell C.  
APPLICANT: Lofton-Day, Catherine E.  
APPLICANT: Lock, Si  
APPLICANT: Jaspers, Stephen R.  
TITLE OF INVENTION: INSULIN HOMOLOG  
NUMBER OF SEQUENCES: 17  
CORRESPONDENCE ADDRESSES:  
ADDRESSER: ZymoGenetics, Inc.  
STREET: 1201 Eastlake Avenue East  
CITY: Seattle  
STATE: WA  
COUNTRY: USA  
ZIP: 98102

COMPUTER READABLE FORM:  
MEDIUM TYPE: Diskette

COMPUTER: IBM Compatible  
OPERATING SYSTEM: DOS  
SOFTWARE: FastSeq for Windows Version 2.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/950,720A  
FILING DATE:  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER:

FILING DATE:  
ATTORNEY/AGENT INFORMATION:  
NAME: Sawislak, Deborah A  
REGISTRATION NUMBER: 37,438  
REFERENCE/DOCKET NUMBER: 96-09  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 206-442-6672  
TELEFAX: 206-442-6678

INFORMATION FOR SEQ ID NO: 9:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 152 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: No. 6046028e

US-08-950-720A-9

Query Match 78.3%; Score 468; DB 3; Length 152;  
Best Local Similarity 100.0%; Pred. No. 7.3e-48;  
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYSSSRRAFGTGVDECCFRSCDLRLMY 60  
DB 23 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYSSSRRAFGTGVDECCFRSCDLRLMY 82

QY 61 CAPLKPAKARSVRAQRHTDMPKTKYQYPPSTNKNTSQ-RRKSTPEEHK 86  
DB 83 CAPLKPAKARSVRAQRHTDMPKTKYQYPPSTNKNTSQRRKSTPEEHK 108

RESULT 4  
US-08-219-878A-1  
Sequence 1, Application US/08219878A  
Patent No. 5473054

GENERAL INFORMATION:  
APPLICANT: Bradford A. Jameson and Renato Baserga  
TITLE OF INVENTION: IGF-1 Analogs  
NUMBER OF SEQUENCES: 5  
CORRESPONDENCE ADDRESSES:  
ADDRESSER: Woodcock Washburn  
ADDRESSER: Kurtz Mackiewicz & No. 5473054tis

STREET: One Liberty Place - 46th Floor  
CITY: Philadelphia  
STATE: PA  
COUNTRY: USA  
ZIP: 19103  
COMPUTER READABLE FORM:  
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 MB STORAGE  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: WORDPERFECT 5.1  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/219,878A  
FILING DATE: 30-MAR-1994  
CLASSIFICATION: 514  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US/07/881,524  
FILING DATE: 08-MAY-1992  
ATTORNEY/AGENT INFORMATION:  
NAME: Mark Deluca  
REGISTRATION NUMBER: 33,229  
REFERENCE/DOCKET NUMBER: TUL-1240  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (215) 568-3100  
TELEFAX: (215) 568-3439  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 153  
TYPE: amino acid  
TOPOLOGY: linear  
US-08-219-878A-1

Query Match  
Best Local Similarity 100.0%; Pred. No. 7.3e-48; Length 153;  
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDLRLMY 60  
DB 49 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDLRLMY 108

QY 61 CAPLKPASARSYRAORHTDMPKTK 86  
DB 109 CAPLKPASARSYRAORHTDMPKTK 134

RESULT 5  
PCT-US93-04329-1  
Sequence 1, Application PC/TUS9304329  
GENERAL INFORMATION:  
APPLICANT: Bradford A. Jameson and Renato Baserga  
TITLE OF INVENTION: IGF-1 Analogs  
NUMBER OF SEQUENCES: 7  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Woodcock Washburn  
STREET: One Liberty Place - 46th Floor  
CITY: Philadelphia  
STATE: PA  
COUNTRY: USA  
ZIP: 19103  
COMPUTER READABLE FORM:  
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 MB STORAGE  
COMPUTER: IBM PS/2  
OPERATING SYSTEM: PC-DOS  
SOFTWARE: WORDPERFECT 5.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: PCT/US93/04329  
FILING DATE: 19930507  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 07/881,524  
FILING DATE: 08-MAY-92  
ATTORNEY/AGENT INFORMATION:  
NAME: Mark Deluca

REGISTRATION NUMBER: 33,229  
REFERENCE/DOCKET NUMBER: TUL-0649  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (215) 568-3100  
TELEFAX: (215) 568-3439  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 153  
TYPE: AMINO ACID  
TOPOLOGY: linear  
PCT-US93-04329-1

Query Match  
Best Local Similarity 100.0%; Pred. No. 7.3e-48; Length 153;  
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDLRLMY 60  
DB 49 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQGTGIVDECCFRSCDLRLMY 108

QY 61 CAPLKPASARSYRAORHTDMPKTK 86  
DB 109 CAPLKPASARSYRAORHTDMPKTK 134

RESULT 6  
US-09-142-583A-11  
Sequence 11, Application US/09142583A  
Patent No. 6221842  
GENERAL INFORMATION:  
APPLICANT: GOLDSPIK, GEOFFREY  
TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS  
NUMBER OF SEQUENCES: 11  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: NIXON & VANDERHAYE P.C.  
STREET: 1100 NORTH GLEBE ROAD  
CITY: ARLINGTON  
STATE: VA  
COUNTRY: USA  
ZIP: 22201  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/142,583A  
FILING DATE: 29-Oct-1998  
CLASSIFICATION: <Unknown>  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: WO PCT/GB97/00658  
FILING DATE: 11-MAR-1997  
APPLICATION NUMBER: GB 9605124.8  
FILING DATE: 11-MAR-1996  
ATTORNEY/AGENT INFORMATION:  
NAME: SAOPE, B. J.  
REGISTRATION NUMBER: 36663  
REFERENCE/DOCKET NUMBER: 117-263  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 7038164000  
TELEFAX: 7038164100  
INFORMATION FOR SEQ ID NO: 11:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 156 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
SEQUENCE DESCRIPTION: SEQ ID NO: 11:  
US-09-142-583A-11

Query Match  
Best Local Similarity 78.3%; Score 468; DB 3; Length 156;  
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIYDECCEFRSCDRLRLMY 60  
DB 52 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIYDECCEFRSCDRLRLMY 111  
QY 61 CAPLKPAKSAKRSVRAQRHTDMPKTOK 86  
DB 112 CAPLKPAKSAKRSVRAQRHTDMPKTOK 137

RESULT 7  
5405942-1  
Patent No. 5405942  
APPLICANT: BELL, GRAEME I.; FALL, LESLIE B.; MERRYWEATHER, JAMES P.  
TITLE OF INVENTION: PREPRO INSULIN-LIKE GROWTH FACTORS  
1 AND 11  
NUMBER OF SEQUENCES: 16  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/07/65,673  
FILING DATE: 16-JUN-1987  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 630,557  
FILING DATE: 19-JUL-1984  
SEQ ID NO: 1:  
LENGTH: 119  
5405942-1

Query Match 77.1%; Score 461; DB 6; Length 119;  
Best Local Similarity 98.8%; Pred. No. 3.6e-47;  
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIYDECCEFRSCDRLRLMY 60  
DB 15 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIYDECCEFRSCDRLRLMY 74  
QY 61 CAPLKPAKSAKRSVRAQRHTDMPKTOK 86  
DB 75 CAPLKPAKSAKRSVRAQRHTDMPKTOK 100

RESULT 8  
US-08-989-251-41  
Sequence 41, Application US/08989251  
Patent No. 6017731  
GENERAL INFORMATION:  
APPLICANT: Tekamp-Olson, Patricia  
TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS  
TITLE OF INVENTION: PROTEINS IN YEAST  
NUMBER OF SEQUENCES: 41  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP  
STREET: 3605 Glenwood Ave. Suite 310  
CITY: Raleigh  
STATE: NC  
COUNTRY: US  
ZIP: 27622  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/989,251  
FILING DATE:  
CLASSIFICATION:  
ATTORNEY/AGENT INFORMATION:  
NAME: Spurrill, W. Murray  
REGISTRATION NUMBER: 32,943  
REFERENCE/DOCKET NUMBER: 5784-4  
TELEPHONE: 919 420 2202  
TELEFAX: 919 881 3175

QY 1 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIYDECCEFRSCDRLRLMY 60  
DB 86 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIYDECCEFRSCDRLRLMY 145  
QY 61 CAPLKPAKSAKRSVRAQRHTDMPKTOK 86  
DB 146 CAPLKPAKSAKRSVRAQRHTDMPKTOK 172

RESULT 9  
US-09-340-250-41  
Sequence 41, Application US/09340250  
Patent No. 6083723  
GENERAL INFORMATION:  
APPLICANT: Tekamp-Olson, Patricia  
TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS  
TITLE OF INVENTION: PROTEINS IN YEAST  
NUMBER OF SEQUENCES: 41  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP  
STREET: 3605 Glenwood Ave. Suite 310  
CITY: Raleigh  
STATE: NC  
COUNTRY: US  
ZIP: 27622  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/340,250  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/989,251  
FILING DATE:  
ATTORNEY/AGENT INFORMATION:  
NAME: Spurrill, W. Murray  
REGISTRATION NUMBER: 32,943  
REFERENCE/DOCKET NUMBER: 5784-4  
TELEPHONE: 919 420 2202  
TELEFAX: 919 881 3175  
INFORMATION FOR SEQ ID NO: 41:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 191 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-09-340-250-41

Query Match 76.5%; Score 457.5; DB 3; Length 191;  
Best Local Similarity 98.9%; Pred. No. 1.7e-46;  
Matches 86; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 1 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIYDECCEFRSCDRLRLMY 60  
DB 86 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIYDECCEFRSCDRLRLMY 145  
QY 61 CAPLKPAKSAKRSVRAQRHTDMPKTOK 86

Db 146 CAPLPAKSAKRSVRAQRHTDMPKTK 172

RESULT 10  
US-09-528-108-41

Sequence 41, Application US/09528108  
Patent No. 6312923  
GENERAL INFORMATION:  
APPLICANT: Tekamp-Olson, Patricia  
TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS  
TITLE OF INVENTION: PROTEINS IN YEAST  
NUMBER OF SEQUENCES: 41  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP  
STREET: 3605 Glenwood Ave. Suite 310  
CITY: Raleigh  
STATE: NC  
COUNTRY: US  
ZIP: 27622  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/528,108  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/989,251  
FILING DATE:  
ATTORNEY/AGENT INFORMATION:  
NAME: Spruill, W. Murray  
REGISTRATION NUMBER: 32,943  
REFERENCE/DOCKET NUMBER: 5784-4  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 919 881 3175  
TELEFAX: 919 420 2202  
INFORMATION FOR SEQ ID NO: 41:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 191 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-09-528-108-41  
Query Match 76.5%; Score 457.5; DB 4; Length 191;  
Best Local Similarity 98.9%; Pred. No. 1,7e-46;  
Matches 86; Conservative 0; Mismatches 0; Indels 1; Gaps 1;  
QY 1 GPETLGAELVDALQFVCGDGRGFYFNKPTGYSSSRAPQGTGIVDECCFRSCDLRLLEY 60  
DB 86 GPETLGAELVDALQFVCGDGRGFYFNKPTGYSSSRAPQGTGIVDECCFRSCDLRLLEY 145  
QY 61 CAPLPAKSAKRSVRAQRHTDMPKTK 86  
DB 146 CAPLPAKSAKRSVRAQRHTDMPKTK 172  
RESULT 11  
US-08-460-890A-47  
Sequence 47, Application US/08460890A  
Patent No. 5994109  
GENERAL INFORMATION:  
APPLICANT: Woo, Savio L.C.  
APPLICANT: Smith, Louis C.  
APPLICANT: Cristiano, Richard J.  
APPLICANT: Gottchalk, Stephen  
TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND  
NUMBER OF SEQUENCES: 65  
CORRESPONDENCE ADDRESS:

ADDRESSEE: Lyon & Lyon  
STREET: 633 West Fifth Street  
CITY: Los Angeles  
STATE: California  
COUNTRY: U.S.A.  
ZIP: 90071-2066

COMPUTER READABLE FORM:  
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb  
MEDIUM TYPE: storage  
COMPUTER: IBM compatible  
OPERATING SYSTEM: IBM P.C. DOS 5.0  
SOFTWARE: FastSeq for Windows 2.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/460,890A  
FILING DATE: June 5, 1995  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/167,641  
FILING DATE: December 14, 1993  
APPLICATION NUMBER: 07/855,389  
FILING DATE: March 20, 1992  
APPLICATION NUMBER: PCT/US93/02725  
FILING DATE: March 19, 1993

ATTORNEY/AGENT INFORMATION:  
NAME: Wardburg, Richard J.  
REGISTRATION NUMBER: 32,327  
REFERENCE/DOCKET NUMBER: 212/066  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (213) 489-1600  
TELEFAX: (213) 955-0440  
TELEX: 67-3510

INFORMATION FOR SEQ ID NO: 47:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 78 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-460-890A-47

Query Match 68.9%; Score 412; DB 2; Length 78;  
Best Local Similarity 97.4%; Pred. No. 1,4e-41;  
Matches 75; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 4 TLGAEIVDALQFVCGDGRGFYFNKPTGYSSSRAPQGTGIVDECCFRSCDLRLLEYCAP 63  
DB 2 TLGAEIVDALQFVCGDGRGFYFNKPTGYSSSRAPQGTGIVDECCFRSCDLRLLEYCAP 61  
QY 64 LKPAKSAKRSVRAQRHTD 80  
DB 62 LKPAKSAKRSVRAQRHTD 78

RESULT 12  
US-08-167-641C-47

Sequence 47, Application US/08167641C  
Patent No. 6033884  
GENERAL INFORMATION:  
APPLICANT: Woo, Savio L.C.  
APPLICANT: Smith, Louis C.  
APPLICANT: Cristiano, Richard J.  
APPLICANT: Gottchalk, Stephen  
TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND  
NUMBER OF SEQUENCES: 65  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Lyon & Lyon  
STREET: 633 West Fifth Street  
CITY: Suite 4700  
STATE: Los Angeles  
COUNTRY: U.S.A.

ZIP: 90071-2066  
COMPUTER READABLE FORM:  
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb  
MEDIUM TYPE: storage  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: IBM P.C. DOS 5.0  
SOFTWARE: FASTSEQ for Windows 2.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/167,641C  
FILING DATE: December 14, 1993  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 07/855,389  
FILING DATE: March 20, 1992  
APPLICATION NUMBER: PCT/US93/02725  
FILING DATE: March 19, 1993  
ATTORNEY/AGENT INFORMATION:  
NAME: Warburg, Richard J.  
REGISTRATION NUMBER: 32,327  
REFERENCE/DOCKET NUMBER: 205/012  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (213) 489-1600  
TELEFAX: (213) 955-0440  
TELEX: 67-3510  
INFORMATION FOR SEQ ID NO: 47:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 78 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-167-641C-47

Query Match 68.9%; Score 412; DB 3; Length 78;  
Best Local Similarity 97.4%; Pred. No. 1.4e-41;  
Matches 75; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 4 TLGAEVLVDALQFVCGDGRGFYFNKPTGYSSSRAPQTGIVDECCFRSCDLRLMYCAP 63  
DB 2 TLGAEVLVDALQFVCGDGRGFYFNKPTGYSSSRAPQTGIVDECCFRSCDLRLMYCAP 61

QY 64 LKPAKARSYRAQRHTD 80  
DB 62 LRPARSARSYRAQRHTD 78

RESULT 13  
US-08-460-971A-47  
Sequence 47, Application US/08460971A  
Patent No. 6150168  
GENERAL INFORMATION:  
APPLICANT: WOO, Savio L.C.  
APPLICANT: Smith, Louis C.  
APPLICANT: Cristiano, Richard J.  
APPLICANT: Gottchalk, Stephen  
TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND  
NUMBER OF SEQUENCES: 65  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Lyon & Lyon  
STREET: 633 West Fifth Street  
CITY: Suite 4700  
STATE: California  
COUNTRY: U.S.A.  
ZIP: 90071-2066  
COMPUTER READABLE FORM:  
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb  
MEDIUM TYPE: storage  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: IBM P.C. DOS 5.0  
SOFTWARE: FASTSEQ for Windows 2.0  
CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/460,971A  
FILING DATE: June 5, 1995  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/167,641  
FILING DATE: December 14, 1993  
APPLICATION NUMBER: 07/855,389  
FILING DATE: March 20, 1992  
APPLICATION NUMBER: PCT/US93/02725  
FILING DATE: March 19, 1993  
ATTORNEY/AGENT INFORMATION:  
NAME: Warburg, Richard J.  
REGISTRATION NUMBER: 32,327  
REFERENCE/DOCKET NUMBER: 212/063  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (213) 489-1600  
TELEFAX: (213) 955-0440  
TELEX: 67-3510  
INFORMATION FOR SEQ ID NO: 47:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 78 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-460-971A-47

Query Match 68.9%; Score 412; DB 3; Length 78;  
Best Local Similarity 97.4%; Pred. No. 1.4e-41;  
Matches 75; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 4 TLGAEVLVDALQFVCGDGRGFYFNKPTGYSSSRAPQTGIVDECCFRSCDLRLMYCAP 63  
DB 2 TLGAEVLVDALQFVCGDGRGFYFNKPTGYSSSRAPQTGIVDECCFRSCDLRLMYCAP 61

QY 64 LKPAKARSYRAQRHTD 80  
DB 62 LRPARSARSYRAQRHTD 78

RESULT 14  
US-08-462-040-47  
Sequence 47, Application US/08462040  
Patent No. 6177554  
GENERAL INFORMATION:  
APPLICANT: WOO, Savio L.C.  
APPLICANT: Smith, Louis C.  
APPLICANT: Cristiano, Richard J.  
APPLICANT: Gottchalk, Stephen  
TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND  
NUMBER OF SEQUENCES: 65  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Lyon & Lyon  
STREET: 633 West Fifth Street  
CITY: Suite 4700  
STATE: California  
COUNTRY: U.S.A.  
ZIP: 90071-2066  
COMPUTER READABLE FORM:  
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb  
MEDIUM TYPE: storage  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: IBM P.C. DOS 5.0  
SOFTWARE: FASTSEQ for Windows 2.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/462,040  
FILING DATE: June 5, 1995  
CLASSIFICATION: 536  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/167,641  
FILING DATE: December 14, 1993

APPLICATION NUMBER: 07/855 389  
 FILING DATE: March 20, 1992  
 APPLICATION NUMBER: PCT/US93/02725  
 FILING DATE: March 19, 1993  
 ATTORNEY/AGENT INFORMATION:  
 NAME: Warburg, Richard J.  
 REGISTRATION NUMBER: 32,327  
 REFERENCE/DOCKET NUMBER: 212/078  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: (213) 489-1600  
 TELEFAX: (213) 955-0440  
 TELETYPE: 67-3510  
 INFORMATION FOR SEQ ID NO: 47:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 78 amino acids  
 TYPE: amino acid  
 STRANDEDNESS: single  
 TOPOLOGY: linear  
 MOLECULE TYPE: peptide  
 US-08-462-040-47

Query Match 68.9%; Score 412; DB 3; Length 78;  
 Best Local Similarity 97.4%; Pred. No. 1.4e-41;  
 Matches 75; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 4 TLGCAELVDALQFVCGDGRGFYFNKPTGYGSSSRAPOTGIYDECCFRSCDLRLRLMYCAP 63  
 DB 2 TLGCAELVDALQFVCGDGRGFYFNKPTGYGSSSRAPOTGIYDECCFRSCDLRLRLMYCAP 61

QY 64 LKPAKSARSVRAQRHTD 80  
 DB 62 LKPAKSARSVRAQRHTD 78

RESULT 15  
 US-07-953-230A-9  
 Sequence 9, Application US/07953230A  
 Patent No. 5476779  
 GENERAL INFORMATION:  
 APPLICANT: CHEN, Thomas T  
 APPLICANT: SHAWLOTT, Michael J  
 TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED  
 TITLE OF INVENTION: FROM RAINBOW TROUT  
 NUMBER OF SEQUENCES: 12  
 CORRESPONDENCE ADDRESS:  
 ADDRESSSEE: Burns, Doane, Swecker & Mathis  
 STREET: George Mason Bldg., Washington & Prince Sts.  
 CITY: Alexandria  
 STATE: Virginia  
 COUNTRY: United States  
 ZIP: 22313-1404  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: Floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: Patentin Release #1.0, Version #1.25  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/07/953,230A  
 FILING DATE: 30-SEP-1992  
 CLASSIFICATION: 435  
 ATTORNEY/AGENT INFORMATION:  
 NAME: Crane-Feury, Sharon E  
 REGISTRATION NUMBER: 36,113  
 REFERENCE/DOCKET NUMBER: 028755-010  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: (703) 836-6620  
 TELEFAX: (703) 836-2021  
 INFORMATION FOR SEQ ID NO: 9:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 176 amino acids  
 TYPE: amino acid  
 STRANDEDNESS: single  
 TOPOLOGY: linear

MOLECULE TYPE: protein  
 US-07-953-230A-9

Query Match 66.6%; Score 398; DB 1; Length 176;  
 Best Local Similarity 62.8%; Pred. No. 1.7e-39;  
 Matches 76; Conservative 10; Mismatches 19; Indels 16; Gaps 1;

QY 1 GPETLCSAELVDALQFVCGDGRGFYFNKPTGYGSSSRAPOTGIYDECCFRSCDLRLRLMY 60  
 DB 45 GPETLCSAELVDALQFVCGDGRGFYFNKPTGYGSSSRAPOTGIYDECCFRSCDLRLRLMY 104  
 QY 61 CAPLKPAKSARSVRAQRHTDMPKTKY-----QPSITNKTKSQRRKGS 104  
 DB 105 CAPLKPAKSARSVRAQRHTDMPKTKYSTAVQSVDRGTERRTAQHPDKTKKKEVHQKNS 164  
 QY 105 T 105  
 DB 165 S 165

Search completed: March 3, 2004, 08:06:37  
 Job time: 14.9157 secs



GenCore version 5.1.6  
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OK protein - protein search, using sw model

Run on: March 3, 2004, 07:50:54 ; Search time 11.5964 Seconds  
(without alignments)  
912.445 Million cell updates/sec

Title: US-09-852-261-2

Perfect score: 598  
Sequence: 1 GPEFLCAELVDALQFVCGD.....STKNKTKSQPRKSTPEEHK 110

Scoring table: BLAST62  
Gapop 10.0, Gapext 0.5

Searched: 283366 seqs, 96191526 residues

Total number of hits satisfying chosen parameters: 283366

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%

Listing first 45 summaries

Database:

PIR-78:\*  
1: PIR1:\*  
2: PIR2:\*  
3: PIR3:\*  
4: PIR4:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match Length	ID	Description
1	560	93.6	195 1	IGHUB
2	521.5	87.2	159 2	IGHUB
3	503.5	84.2	133 2	A40912
4	494	82.6	181 2	A27804
5	468	78.3	137 1	IGGP1
6	468	78.3	137 2	A6352
7	468	78.3	153 1	IGHU1
8	464.5	77.7	153 2	S12825
9	463	77.4	122 2	PN0622
10	463	77.4	153 1	IGHO1
11	459	76.8	154 2	JC2483
12	455	76.1	138 2	S22878
13	455	76.1	154 2	A33390
14	450	75.3	153 2	B27804
15	447	74.2	127 2	A25540
16	432	72.2	127 2	B40912
17	422	70.6	153 2	A41399
18	419.5	70.2	153 2	A36079
19	403.5	67.5	161 2	C54270
20	401	67.1	155 2	C44012
21	401	67.1	176 2	A41396
22	401	67.1	188 2	A54270
23	401	67.1	188 2	B54270
24	399	66.7	149 2	D54270
25	398	66.6	176 2	A46244
26	298.5	48.9	126 2	S66485
27	293	48.0	193 2	A53697
28	264.5	44.2	214 2	B46244
29	248.5	41.6	187 2	T10897

30	241	40.3	179 2	S04858	insulin-like growth
31	235	39.3	128 2	I57671	insulin-like growth
32	235	39.3	155 1	IGHO2	insulin-like growth
33	233	39.0	180 2	A24913	insulin-like growth
34	231	38.6	180 1	IGHU2	insulin-like growth
35	229.5	38.4	180 1	IGRT2	insulin-like growth
36	228.5	38.2	93 2	I53642	insulin-like growth
37	228	38.1	181 2	B60738	insulin-like growth
38	225.5	37.7	183 2	S02423	insulin-like growth
39	219.5	36.7	139 2	A38612	insulin-like growth
40	219.5	36.7	183 2	I67610	insulin-like growth
41	212.5	35.5	79 2	I51240	insulin-like growth
42	207	34.6	210 2	S66484	insulin-like growth
43	200	33.4	66 2	A60740	insulin-like growth
44	178	29.8	44 2	A34049	insulin-like growth
45	159.5	26.7	50 1	INFS	insulin - shortthor

#### ALIGNMENTS

RESULT 1  
IGHUB  
insulin-like growth factor I precursor, splice form B [validated] - human  
N/Alternate names: IGF-IB, somatomedin C  
N/Contains: insulin-like growth factor IB-E1 amide  
C/Species: Homo sapiens (man)  
C/Date: 30-Jun-1987 #sequence revision 30-Jun-1987 #text\_change 31-Dec-2000  
C/Accession: A01611, A26181, S30540, B48960, A42664  
R/Rotwein, P.; Pollock, K.M.; Didier, D.K.; Kriv, G.G.  
J. Biol. Chem. 261, 4828-4832, 1986  
A/Title: Organization and sequence of the human insulin-like growth factor I gene. Alterr  
A/Reference number: A92581, PMID:86168194, PMID:2937782  
A/Accession: A01611  
A/Molecule type: DNA  
A/Residues: 1-195 <NOT>  
A/Cross-references: GB:M4155, NID:G183106, PIDN:AA52537.1, PID:G183109  
R/Rotwein, P.  
Proc. Natl. Acad. Sci. U.S.A. 83, 77-81, 1986  
A/Title: Two insulin-like growth factor I messenger RNAs are expressed in human liver.  
A/Reference number: A26181, PMID:86094355, PMID:3455760  
A/Accession: A26181  
A/Molecule type: mRNA  
A/Residues: 1-195 <NOT>  
A/Cross-references: GB:M1568, NID:G183111, PIDN:AA52539.1, PID:G183112  
R/Sandberg Nordqvist, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.  
Submitted to the EMBL Data Library, November 1990  
A/Description: Nucleotide sequence of the human fetal brain IGF-1b.  
A/Reference number: S30540  
A/Accession: S30540  
A/Molecule type: mRNA  
A/Residues: 1-195 <SAS>  
A/Cross-references: EMBL:X56774, NID:G32991, PIDN:CAA4093.1, PID:G32992  
R/Sandberg Nordqvist, A.C.; Stahlbom, P.A.; Reincke, M.; Collins, V.P.; von Holst, H.; &  
Cancer Res. 53, 2475-2478, 1993  
A/Title: Characterization of insulin-like growth factor 1 in human primary brain tumors.  
A/Reference number: A48960, PMID:93265440, PMID:6495408  
A/Accession: B48960  
A/Molecule type: mRNA  
A/Residues: 1-195 <SAS>  
A/Cross-references: GB:X56774, GB:S61860, NID:G32991, PIDN:CAA4093.1, PID:G32992  
A/Experimental source: anaplastic oligodendroglioma  
A/Note: sequence modified after extraction from NCBI backbone  
A/Note: the authors translated the codon CAG for residues 124 and 133 as Glu  
A/Note: sequence extracted from NCBI backbone (NCBIN:133058), A.M.; Mulshine, J.L.; Quinn, K.A.; Cuttitta,  
R.; Siegfried, U.M.; Kasprzyk, F.G.; Iresson, A.M.; Mulshine, J.L.; Quinn, K.A.; Cuttitta,  
Proc. Natl. Acad. Sci. U.S.A. 89, 8107-8111, 1992  
A/Title: A mitogenic peptide amide encoded within the E peptide domain of the insulin-like  
A/Reference number: A42664, PMID:92390398, PMID:3325646  
A/Contents: annotation; IIR-1; amidated carboxyl end  
C/Comment: For an alternative splice form, see PIR:IGHU.  
C/Genetics  
A/Gene: GDB:IGF1

A:Cross-references: GDB:120081; OMIM:147440  
A:Map position: 12q22-12q24.1  
A:Introns: 21/3; 74/1; 134/3  
C:Superfamily: Insulin  
C:Keywords: alternative splicing; amidated carboxyl end; growth factor; plasma  
F:1-21/Domain: signal sequence #status predicted <SIG>  
F:22-48/Domain: propeptide #status predicted <PRO>  
F:49-118/Produce: insulin-like growth factor I #status predicted <MAT>  
F:49-118/Produce: insulin-like growth factor I #status predicted <CH>  
F:78-89/Domain: insulin chain B-like #status predicted <CH>  
F:90-110/Domain: insulin chain A-like #status predicted <CH>  
F:111-118/Domain: D peptide #status predicted <CH>  
F:119-199/Domain: carboxyl-terminal propeptide (B peptide) #status predicted <CH>  
F:151-172/Produce: insulin-like growth factor IB-EI amide #status predicted <MA2>  
F:54-96/66-109,95-100/Disulfide bonds: #status predicted  
F:172/Modified site: amidated carboxyl end (Arg) (amide in mature form from following 91)

Query Match 93.6%; Score 560; DB 1; Length 195;  
Best Local Similarity 100.0%; Pred. No. 5.4e-51;  
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYSSSRAPQGTIVDECCFRSCDLRLRLMY 60  
DB 49 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYSSSRAPQGTIVDECCFRSCDLRLRLMY 108

QY 61 CAPLKPAKSARSVRARHTDMPKTKYQPPSTNNKTKSQ-RRKGSFTFEHK 110  
DB 109 CAPLKPAKSARSVRARHTDMPKTKYQPPSTNNKTKSQ-RRKGSFTFEHK 151

RESULT 2  
Insulin-like growth factor IB precursor - rat  
C:Species: Rattus norvegicus (Norway rat)  
C>Date: 19-Nov-1988 #sequence\_revision 19-Nov-1988 #text\_change 16-Jul-1999  
A:Accession: A26859  
R:Shimatsu, A.; Rotwein, P.  
Nucleic Acids Res. 15, 7196, 1987  
A:Title: Sequence of two rat insulin-like growth factor I mRNAs differing within the 5'  
A:Reference number: A26859; PMID:86015572; PMID:3658684  
A:Accession: A26859  
A:Molecule type: mRNA  
A:Residues: 1-159 <SHI>  
A:Cross-references: GB:M32260; GB:Y00429; NID:G56424; PIDN:CAA29480.1; PID:G5  
C:Superfamily: Insulin  
C:Keywords: alternative splicing; growth factor

Query Match 87.2%; Score 521.5; DB 2; Length 159;  
Best Local Similarity 89.2%; Pred. No. 4.5e-47;  
Matches 99; Conservative 2; Mismatches 9; Indels 1; Gaps 1;

QY 1 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYSSSRAPQGTIVDECCFRSCDLRLRLMY 60  
DB 49 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYSSSRAPQGTIVDECCFRSCDLRLRLMY 108

QY 61 CAPLKPAKSARSVRARHTDMPKTKYQPPSTNNKTKSQ-RRKGSFTFEHK 110  
DB 109 CAPLKPAKSARSVRARHTDMPKTKYQPPSTNNKTKSQ-RRKGSFTFEHK 159

RESULT 3  
A40912  
Insulin-like growth factor I precursor form 1 - rat  
C:Species: Rattus norvegicus (Norway rat)  
C>Date: 28-Feb-1992 #sequence\_revision 28-Feb-1992 #text\_change 16-Jul-1999  
A:Accession: A40912  
R:Roberts Jr., C.T.; Laskey, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.  
Mol. Endocrinol. 1, 243-248, 1987  
A:Title: Molecular cloning of rat insulin-like growth factor I complementary deoxyribonu  
C:Accession: A40912; PMID:88288198; PMID:3453891  
A:Status: preliminary

A:Molecule type: mRNA  
A:Residues: 1-133 <ROB>  
A:Cross-references: GB:M15480; NID:G204749; PIDN:AAA41385.1; PID:G204750  
C:Superfamily: Insulin

Query Match 84.2%; Score 503.5; DB 2; Length 133;  
Best Local Similarity 86.5%; Pred. No. 2.9e-45;  
Matches 96; Conservative 2; Mismatches 12; Indels 1; Gaps 1;

QY 1 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYSSSRAPQGTIVDECCFRSCDLRLRLMY 60  
DB 23 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYSSSRAPQGTIVDECCFRSCDLRLRLMY 82

QY 61 CAPLKPAKSARSVRARHTDMPKTKYQPPSTNNKTKSQ-RRKGSFTFEHK 110  
DB 83 CAPLKPAKSARSVRARHTDMPKTKYQPPSTNNKTKSQ-RRKGSFTFEHK 133

RESULT 4  
A27804  
Insulin-like growth factor I precursor - rat  
C:Species: Rattus norvegicus (Norway rat)  
C>Date: 09-Jun-1988 #sequence\_revision 09-Jun-1988 #text\_change 16-Jul-1999  
A:Accession: A27804; PMID:165202  
R:Shimatsu, A.; Rotwein, P.  
J. Biol. Chem. 263, 7894-7900, 1987  
A:Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence,  
A:Reference number: A27804; PMID:87222423; PMID:3034505  
A:Accession: A27804  
A:Status: preliminary  
A:Molecule type: DNA  
A:Residues: 1-181 <SHI>  
A:Cross-references: GB:M15650; GB:J02743; NID:G204296; PIDN:AAA41214.1; PID:G204299  
R:Roberts, C.T.  
Biochem. Biophys. Res. Commun. 146, 1154-1159, 1987  
A:Title: Rat IGF-I cDNA's contain multiple 5'-untranslated regions.  
A:Reference number: 152218; PMID:87298553; PMID:3619921  
A:Accession: 165202  
A:Status: preliminary; translated from GB/EMBL/DBJ  
A:Molecule type: mRNA  
A:Residues: 1-27 <RBS>  
A:Cross-references: GB:M17594; NID:G204759; PIDN:AAA41390.1; PID:G204760  
C:Superfamily: Insulin  
C:Keywords: alternative splicing

Query Match 82.6%; Score 494; DB 2; Length 181;  
Best Local Similarity 84.4%; Pred. No. 3.8e-44;  
Matches 92; Conservative 4; Mismatches 13; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYSSSRAPQGTIVDECCFRSCDLRLRLMY 60  
DB 49 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYSSSRAPQGTIVDECCFRSCDLRLRLMY 108

QY 61 CAPLKPAKSARSVRARHTDMPKTKYQPPSTNNKTKSQ-RRKGSFTFEHK 109  
DB 109 CAPLKPAKSARSVRARHTDMPKTKYQPPSTNNKTKSQ-RRKGSFTFEHK 157

RESULT 5  
IGRP1  
Insulin-like growth factor I precursor - guinea pig  
C:Species: Cavia porcellus (guinea pig)  
C>Date: 30-Sep-1991 #sequence\_revision 30-Sep-1991 #text\_change 07-Nov-1997  
A:Accession: S12719  
R:Bel, G.I.; Stempien, M.W.; Pong, N.W.; Seino, S.  
Nucleic Acids Res. 18, 4275, 1990  
A:Title: Sequence of a cDNA encoding guinea pig IGF-I.  
A:Reference number: S12719; PMID:90332447; PMID:2377480  
A:Accession: S12719  
A:Molecule type: mRNA  
A:Residues: 1-137 <BEL>  
A:Cross-references: EMBL:X52951  
A:Note: It is uncertain whether Met-1 or Met-8 is the initiator

C:Superfamily: insulin  
 C:Keywords: glycoprotein, growth factor, plasma  
 F:1-32/Domain: signal sequence #status predicted <SIG>  
 F:33-102/Product: insulin-like growth factor I #status predicted <MNT>  
 F:33-61/Domain: insulin chain B-like #status predicted <CHB>  
 F:62-73/Domain: insulin connecting C peptide-like #status predicted <CHC>  
 F:74-94/Domain: insulin chain A-like #status predicted <CHA>  
 F:95-109/Domain: D peptide #status predicted <CHD>  
 F:103-137/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>  
 F:124/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 78.3%; Score 468; DB 1; Length 137;  
 Best Local Similarity 100.0%; Pred. No. 1,5e-41;  
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTGYDECCFSSCDLRLEMY 60  
 DB 33 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTGYDECCFSSCDLRLEMY 92

QY 61 CAPLKPAKSARSVAQRHTDMPKTK 86  
 DB 93 CAPLKPAKSARSVAQRHTDMPKTK 118

RESULT 6  
 A36552  
 Insulin-like growth factor Ia precursor - human  
 C:Species: Homo sapiens (man)  
 C:Date: 12-Apr-1991 #sequence\_revision 12-Apr-1991 #text\_change 16-Jul-1999  
 C:Accession: A36552  
 R:Tobin, G.; Yee, D.; Bruemner, N.; Rotwein, P.  
 Mol. Endocrinol. 4, 1914-1920, 1990  
 A:Title: A novel human insulin-like growth factor I messenger RNA is expressed in normal  
 A:Reference number: A36552; MUID:91187000; PMID:2082190  
 A:Accession: A36552  
 A:Status: preliminary  
 A:Molecule type: mRNA  
 A:Residues: 1-137 <TOB>  
 A:Cross-references: GB:M7484; NID:G184833; PIDN:AAA52787.1; PID:G184834  
 C:Superfamily: insulin

Query Match 78.3%; Score 468; DB 2; Length 137;  
 Best Local Similarity 100.0%; Pred. No. 1,5e-41;  
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTGYDECCFSSCDLRLEMY 60  
 DB 33 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTGYDECCFSSCDLRLEMY 92

QY 61 CAPLKPAKSARSVAQRHTDMPKTK 86  
 DB 93 CAPLKPAKSARSVAQRHTDMPKTK 118

RESULT 7  
 IGHU1  
 Insulin-like growth factor I precursor, splice form A [validated] - human  
 A:Alternate names: IGF-I long splice form precursor; IGF-1A; somatomedin C  
 C:Species: Homo sapiens (man)  
 C:Dates: 24-Apr-1984 #sequence\_revision 30-Jun-1987 #text\_change 31-Dec-2000  
 C:Accession: A92581; A23614; A93321; J70571; A23622; A92226; A60483; S30519; A48960; I57  
 R:Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.  
 J. Biol. Chem. 261, 4829-4833, 1986  
 A:Title: Organization and sequence of the human insulin-like growth factor I gene. Alter  
 A:Reference number: A92581; MUID:86168194; PMID:2937782  
 A:Molecule type: DNA  
 A:Residues: 1-153 <ROT>  
 A:Cross-references: GB:M4156; NID:G183107; PIDN:AAA52538.1; PID:G183110  
 R:de Pagter-Holthuis, P.; van Schaik, F.M.A.; Verduijn, G.M.; van Ommen, G.J.B.; Bouda  
 FBS Lett. 195, 179-184, 1986  
 A:Title: Organization of the human genes for insulin-like growth factors I and II.  
 A:Reference number: A91356; MUID:86108862; PMID:3002851

A:Accession: A23614  
 A:Molecule type: DNA  
 A:Residues: 24-153 <DEP>  
 A:Cross-references: GB:X03420; GB:X00362; NID:G33020; PIDN:CAA27152.1; PID:G33021; GB:X0  
 R:Canan, M.; van Schaik, F.M.A.; Ricker, A.T.; Bullock, B.; Woode, D.E.; Gabbay, K.H.;  
 Nature 306, 609-611, 1983  
 A:Title: Sequence of cDNA encoding human insulin-like growth factor I precursor.  
 A:Reference number: A93321; MUID:84068210; PMID:6358902  
 A:Accession: A93321  
 A:Molecule type: mRNA  
 A:Residues: 1-153 <JAN>  
 A:Cross-references: GB:X00173; NID:G33015; PIDN:CAA44998.1; PID:G33016  
 A:Note: Met-24 is proposed as a likely initiator  
 R:Steinberg, P.H.; Koonen-Reemer, A.M.C.B.; Cleutjens, C.B.J.M.; Sussenbach, J.S.  
 Biochem. Biophys. Res. Commun. 175, 507-514, 1991  
 A:Title: Complete nucleotide sequence of the high molecular weight human IGF-I mRNA.  
 A:Reference number: J70571; MUID:91207342; PMID:2018498  
 A:Accession: J70571  
 A:Molecule type: mRNA  
 A:Residues: 1-153 <STB>  
 A:Cross-references: EMBL:X57025; NID:G33007; PIDN:CAA40342.1; PID:G33008  
 R:de Bouc, Y.; Dreyer, D.; Jaeger, F.; Binoux, M.; Sondermeyer, P.  
 FBS Lett. 196, 108-112, 1986  
 A:Title: Complete characterization of the human IGF-I nucleotide sequence isolated from  
 A:Reference number: A23622; MUID:86108910; PMID:2935423  
 A:Accession: A23622  
 A:Molecule type: mRNA  
 A:Residues: 1-153 <LEB>  
 A:Cross-references: GB:M27544; NID:G184829; PIDN:AAA52787.1; PID:G306927  
 R:Rind-Knecht, E.; Humbel, R.E.  
 J. Biol. Chem. 263, 2769-2776, 1988  
 A:Title: The amino acid sequence of human insulin-like growth factor I and its structural  
 A:Reference number: A92226; MUID:78130171; PMID:632300  
 A:Accession: A92226  
 A:Molecule type: protein  
 A:Residues: 49-118 <RIN>  
 R:Karey, K.P.; Marguaret, H.; Stibacku, D.A.  
 Blood 74, 1084-1092, 1989  
 A:Title: Human platelet-derived mitogens. Identification of insulinlike growth factors I  
 A:Reference number: A60483; MUID:89323462; PMID:2752153  
 A:Accession: A60483  
 A:Molecule type: protein  
 A:Residues: 49-53, 'X', '55-65', 'X', '67-75' <KAR>  
 A:Experimental source: platelet lysate  
 R:Nordqvist Sandberg, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.  
 Submitted to the EMBL Data Library, November 1990  
 A:Description: Nucleotide sequence of the human fetal brain IGF-1a.  
 A:Reference number: S30519  
 A:Accession: S30519  
 A:Status: preliminary  
 A:Molecule type: mRNA  
 A:Residues: 1-153 <NOR>  
 A:Cross-references: EMBL:X56773; NID:G32989; PIDN:CAA40092.1; PID:G32990  
 R:Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reincke, M.; Collins, V.P.; von Holst, H.;  
 Cancer Res. 53, 2475-2478, 1993  
 A:Title: Characterization of insulin-like growth factor I in human primary brain tumors.  
 A:Reference number: A48960; MUID:93265440; PMID:8495408  
 A:Accession: A48960  
 A:Molecule type: mRNA  
 A:Residues: 1-123, 'E', '125-132', 'E', '134-153' <SAN>  
 A:Cross-references: GB:X56773; GB:561841; NID:G32989  
 A:Experimental source: amniotic oligodendrogloma  
 A:Note: sequence extracted from NCBI backbone (NCBI:133056, NCBI:133057)  
 R:Rall, L.B.; Scott, U.; Bell, G.I.  
 Meth. Enzymol. 146, 239-248, 1987  
 A:Title: Human insulin-like growth factor I and II messenger RNA: isolation of complement  
 A:Reference number: I57044; MUID:88065102; PMID:3683205  
 A:Accession: I57044  
 A:Status: preliminary; translated from GB/EMBL/DBJ  
 A:Molecule type: mRNA  
 A:Residues: 24-153 <RAU>  
 A:Cross-references: GB:M29644; NID:G183119; PIDN:AAA52543.1; PID:G183120

C:Comment: The insulin-like growth factors, isolated from plasma, are structurally and functionally identical to the insulin-like growth factor I (IGF-I) and II (IGF-II).

C:Genetics:

A:Gene: GDB:IGF1

A:Cross-references: GDB:120081; OMIM:147440

A:Map position: 12q22-12q24.1

A:Introns: 21/3; 74/1; 134/3

C:Superfamily: Insulin

C:Keywords: alternative splicing; growth factor; plasma

F:1-21/Domain: signal sequence #status predicted <SIG>

F:22-48/Domain: propeptide #status predicted <PRO>

F:49-118/Product: insulin-like growth factor I #status experimental <MAT>

F:49-77/Domain: insulin chain B-like #status experimental <CHB>

F:78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>

F:90-110/Domain: insulin chain A-like #status experimental <CHA>

F:111-118/Domain: D peptide #status experimental <CHD>

F:119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPRO>

F:154-96/66-109/95-100/Disulfide bonds: #status predicted

Query Match

Best Local Similarity 78.3%; Score 468; DB 1; Length 153;

Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLLEY 60
DB 49 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLLEY 108
QY 61 CAPLKPAKSARSVRAPQHTDMPKTXK 86
DB 109 CAPLKPAKSARSVRAPQHTDMPKTXK 134

```

RESULT 8

S12825 Insulin-like growth factor I precursor - pig

N:Alternate names: somatomedin C

C:Species: Sus scrofa domestica (domestic pig)

C>Date: 13-Jan-1995 #sequence revision 13-Jan-1995 #text\_change 16-Jul-1999

C:Accession: S12825; S21488; A34938; A60738

R:Mueller, M.; Brem, G., 1990

Nucleic Acids Res. 18, 364, 1990

A:Title: Nucleotide sequence of porcine insulin-like growth factor I: 5' untranslated region

A:Reference number: S12825; MUID:90221822; PMID:2326169

A:Accession: S12825

A:Status: preliminary

A:Molecule type: DNA

A:Residues: 1-153 <MUB>

A:Cross-references: EMBL:X52388

R:Dickson, M.C.; Huskisson, N.S.; Gilmour, R.S.

submitted to the EMBL Data Library, November 1989

A:Description: Porcine insulin-like growth factor gene: sequence of exon and 5' non-coding

A:Reference number: S21488

A:Accession: S21488

A:Molecule type: DNA

A:Residues: 1-21 <DIC>

A:Cross-references: EMBL:X17638; NID:9195; PIDN:CAA35632.1; PID:G1996

R:Tavakoli, A.; Simmen, F.A.; Simmen, R.C.M.

Mol. Endocrinol. 2, 674-681, 1988

A:Title: Porcine insulin-like growth factor-I (pIGF-I): complementary deoxyribonucleic acid

A:Reference number: A34938; MUID:89096956; PMID:3211153

A:Accession: A34938

A:Molecule type: mRNA

A:Residues: 71, 21-153 <TAV>

A:Cross-references: GB:M31175

R:Francis, G.L.; Owens, P.C.; McNeill, K.A.; Wallace, J.C.; Ballard, F.J.

J. Endocrinol. 122, 681-687, 1989

A:Title: Purification, amino acid sequences and assay cross-reactivities of porcine insulin

A:Reference number: A60738; MUID:90039035; PMID:2809477

A:Accession: A60738

A:Molecule type: protein

A:Residues: 49-117, 'X' <FRA>

C:Genetics:

A:Introns: 21/3; 74/1

C:Superfamily: Insulin

C:Keywords: growth factor

F:1-22/Domain: signal sequence #status predicted <SIG>

F:23-48/Domain: propeptide #status predicted <PRO>

F:49-153/Product: insulin-like growth factor IA #status experimental <MAT>

Query Match

Best Local Similarity 77.7%; Score 464.5; DB 2; Length 153;

Matches 89; Conservative 1; Mismatches 5; Indels 7; Gaps 1;

```

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLLEY 60
DB 49 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLLEY 108
QY 61 CAPLKPAKSARSVRAPQHTDMPKTXK-----YQPPSTNNX 95
DB 109 CAPLKPAKSARSVRAPQHTDMPKTXKQEVHLKNTSRSGSGKN 150

```

RESULT 9

PN0622 Insulin-like growth factor Ia precursor - dog (fragment)

C:Species: Canis lupus familiaris (dog)

C>Date: 10-Mar-1994 #sequence revision 10-Mar-1994 #text\_change 07-May-1999

C:Accession: PN0622

R:Delafontaine, P.; Lou, H.; Harrison, D.G.; Bernstein, K.E.

Gene 130, 305-306, 1993

A:Title: Sequence of a cDNA encoding dog insulin-like growth factor I.

A:Reference number: PN0622; MUID:93366192; PMID:8359700

A:Accession: PN0622

A:Molecule type: mRNA

A:Residues: 1-122 <DEL>

C:Comment: This protein is a potent inducer of DNA synthesis in multiple cell types, a

C:Genetics:

A:Gene: IGF1A

C:Superfamily: Insulin

C:Keywords: growth factor

F:20-89/Product: insulin-like growth factor Ia (fragment) #status predicted <MAT>

Query Match

Best Local Similarity 77.4%; Score 463; DB 2; Length 122;

Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLLEY 60
DB 20 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLLEY 79
QY 61 CAPLKPAKSARSVRAPQHTDMPKTXK 86
DB 80 CAPLKPAKSARSVRAPQHTDMPKTXK 105

```

RESULT 10

IGF01

Insulin-like growth factor IA precursor - bovine (fragment)

N:Alternate names: IGF-I; somatomedin C

C:Species: Bos primigenius taurus (cattle)

C>Date: 31-Mar-1988 #sequence revision 28-Apr-1995 #text\_change 18-Jun-1999

C:Accession: S12672; A25623; S00465

R:Forstis, T.; Murphy, C.; Gannon, F.

Nucleic Acids Res. 18, 676, 1990

A:Title: Nucleotide sequence of the bovine insulin-like growth factor I (IGF-I) and its

A:Reference number: S12672; MUID:90175014; PMID:2308858

A:Accession: S12672

A:Molecule type: mRNA

A:Residues: 1-153 <FOT>

A:Cross-references: EMBL:X15726; NID:9454; PIDN:CAA33746.1; PID:9455

A:Experimental source: liver

R:Honegger, A.; Humbel, R.E.

J. Biol. Chem. 261, 569-575, 1986

A:Title: Insulin-like growth factors I and II in fetal and adult bovine serum. Purified

A:Reference number: A92585; MUID:86085881; PMID:3941093

A:Accession: A25623  
A:Molecule type: protein  
A:Residues: 49-118 <HON>  
R:Francis, G.L.; Upson, F.M.; Ballard, F.J.; McNeill, K.A.; Wallace, J.C.  
Biochem. J. 251, 95-103, 1988  
A:Title: Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences and biological  
A:Reference number: S00465; MUID:88268820; PMID:3390164  
A:Accession: S00465  
A:Molecule type: protein  
A:Residues: 49-118 <FRA>  
A:Experimental source: colostrum  
A:Note: a form of IGF-1 lacking the first three residues and possessing enhanced biological  
C:Superfamily: insulin  
C:Keywords: alternative splicing; colostrum; growth factor; plasma  
F:1-40/Domain: signal sequence (fragment) #status predicted <SIG>  
F:12-48/Domain: propeptide #status predicted <PRO>  
F:49-118/Product: insulin-like growth factor IA (active) #status experimental <MAT>  
F:49-77/Domain: insulin B chain-like #status experimental <DOB>  
F:78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>  
F:90-110/Domain: insulin A chain-like #status experimental <DOA>  
F:111-118/Domain: D peptide #status experimental <CHD>  
F:119-153/Domain: carboxyl-terminal propeptide (B peptide) #status predicted <CP>  
F:154-96,66-109,95-100/Disulfide bonds: #status predicted

Query Match 77.4%; Score 463; DB 1; Length 153;  
Best Local Similarity 98.8%; Pred. No. 5,4e-41;  
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLLEY 60  
DB 49 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLLEY 108  
OY 61 CAPLKPAKSARSVRQRHTDMPKQK 86  
DB 109 CAPLKPAKSARSVRQRHTDMPKQK 134

RESULT 11  
JC2483  
Insulin-like growth factor-I precursor - goat  
C:Species: Capra aegagrus hircus (domestic goat)  
C>Date: 16-Mar-1995 #sequence\_revision 26-May-1995 #text\_change 17-Mar-1999  
C:Accession: JC2483  
R:Yoshikawa, G.; Aoki, H.; Yamano, Y.; Sakai, H.; Komano, T.  
Bioosc. Biotechnol. Biochem. 59, 87-92, 1995  
A:Title: Dynamic aspects in the expression of the goat insulin-like growth factor-I (IGF-I)  
A:Reference number: JC2483; MUID:95201385; PMID:765981  
A:Accession: JC2483  
A:Molecule type: mRNA  
A:Residues: 1-154 <MIK>  
A:Cross-references: GB:S11378; DDBJ:D26116; DDBJ:D26117; DDBJ:D26118; DDBJ:D26119  
C:Genetics:  
A:Introns: 21/3; 75/1; 135/3  
C:Superfamily: insulin  
F:1-49/Domain: signal sequence #status predicted <SIG>  
F:50-119/Product: insulin-like growth factor-I #status predicted <MAT>  
F:120-154/Region: E domain

Query Match 76.8%; Score 459; DB 2; Length 154;  
Best Local Similarity 97.7%; Pred. No. 1,4e-40;  
Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLLEY 60  
DB 50 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLLEY 109  
OY 61 CAPLKPAKSARSVRQRHTDMPKQK 86  
DB 110 CAPLKPAKSARSVRQRHTDMPKQK 135

RESULT 12  
S22878

Insulin-like growth factor I precursor, splice form 2 - sheep  
C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)  
C>Date: 23-Apr-1999 #sequence\_revision 23-Apr-1999 #text\_change 23-Jul-1999  
C:Accession: S22878; S07198  
R:Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.  
J. Mol. Endocrinol. 6, 17-31, 1991  
A:Title: The ovine insulin-like growth factor-I gene: characterization, expression and its  
A:Reference number: S22877; MUID:91197361; PMID:2015053  
A:Accession: S22878  
A:Status: preliminary  
A:Molecule type: DNA  
A:Residues: 1-138 <DIC>  
A:Cross-references: EMBL:X51358  
R:Francis, G.L.; McNeill, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.  
Endocrinology 124, 1173-1183, 1989  
A:Title: Sheep insulin-like growth factors I and II: sequences, activities and assays.  
A:Reference number: S07198; MUID:89136887; PMID:2537174  
A:Accession: S07198  
A:Molecule type: protein  
A:Residues: 34-103 <FRA>  
A:Experimental source: fetal plasma  
C:Genetics:  
A:Introns: 5/3; 59/1; 119/3  
C:Superfamily: insulin  
C:Keywords: alternative splicing; growth factor; plasma  
F:7-33/Domain: propeptide #status predicted <PRO>  
F:34-103/Product: insulin-like growth factor I (active) #status experimental <MAT>  
F:34-66/Domain: insulin chain B-like #status predicted <DOB>  
F:66-76/Domain: insulin connecting peptide-like #status predicted <CHC>  
F:76-103/Domain: insulin chain A-like #status predicted <DOA>  
F:104-138/Domain: peptide D #status predicted <CHD>  
F:139-81,51-94,80-85/Disulfide bonds: #status predicted

Query Match 76.1%; Score 455; DB 2; Length 138;  
Best Local Similarity 97.7%; Pred. No. 3,4e-40;  
Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLLEY 60  
DB 34 GPEITCGALVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLLEY 93  
OY 61 CAPLKPAKSARSVRQRHTDMPKQK 86  
DB 94 CAPLKPAKSARSVRQRHTDMPKQK 119

RESULT 13  
A33390  
Insulin-like growth factor I precursor, splice form 1 - sheep  
N:Alternate names: somatomedin C  
C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)  
C>Date: 09-Mar-1990 #sequence\_revision 27-Feb-1997 #text\_change 23-Jul-1999  
C:Accession: S22877; A33390; S07965; S07198  
R:Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.  
J. Mol. Endocrinol. 6, 17-31, 1991  
A:Title: The ovine insulin-like growth factor-I gene: characterization, expression and its  
A:Reference number: S22877; MUID:91197361; PMID:2015053  
A:Accession: S22877  
A:Molecule type: DNA  
A:Residues: 1-154 <DIC>  
A:Cross-references: EMBL:X51358  
R:Wong, E.A.; Ohlsen, S.M.; Godfredson, J.A.; Dean, D.M.; Wheaton, J.E.  
DNA 8, 649-657, 1989  
A:Title: Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity in the mRNA  
A:Accession: A33390  
A:Molecule type: mRNA  
A:Residues: 1-43, 'SS', 46-154 <MON>  
A:Cross-references: GB:M30653; NID:G165929; PIDN:AA80532.1; PID:G165930  
R:Hey, A.W.; Browne, C.A.; Simpson, R.J.; Thorburn, G.D.  
Biochim. Biophys. Acta 997, 27-35, 1989  
A:Title: Simultaneous isolation of insulin-like growth factors I and II from adult sheep

A:Reference number: S04972; MUID:89323215; PMID:2752053  
 A:Accession: S07965  
 A:Molecule type: protein  
 A:Residues: 50-79 <HEX>  
 R:Francis, G.L.; McNeill, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.  
 R:Enocrinology 124, 1173-1183, 1989  
 A:Title: Sheep insulin-like growth factors I and II: sequences, activities and assays.  
 A:Reference number: S07198; MUID:89136887; PMID:2537174  
 A:Accession: S07198  
 A:Molecule type: protein  
 A:Residues: 50-119 <FRA>  
 A:Experimental source: fetal plasma  
 C:Genetics: 21/3; 75/1; 135/3  
 A:Keywords: alternative splicing; growth factor; plasma  
 C:Superfamily: insulin  
 F:1-21/Domain: signal sequence #status predicted <SIG>  
 F:22-49/Domain: propeptide #status predicted <PRO>  
 F:50-119/Product: insulin-like growth factor I (active) #status experimental <WAT>  
 F:50-78/Domain: insulin chain B-like #status predicted <DOB>  
 F:79-90/Domain: insulin connecting peptide-like #status predicted <CHC>  
 F:91-111/Domain: insulin chain A-like #status predicted <DOA>  
 F:112-119/Domain: peptide D #status predicted <CHD>  
 F:120-154/Domain: carboxyl-terminal propeptide (B peptide) #status predicted <CTP>  
 F:55-97, 67-110, 96-101/Dissulfide bonds: #status predicted

Query Match 76.1%; Score 455; DB 2; Length 154;  
 Best Local Similarity 97.7%; Pred. No. 3,7e-40;  
 Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 GPEITCGAEIVDALQFVCGRGFFYFNKPTGYGSSSSRRAPQTGIYDECCFSCDLRLIEMV 60  
 Db 50 GPEITCGAEIVDALQFVCGRGFFYFNKPTGYGSSSSRRAPQTGIYDECCFSCDLRLIEMV 109

Qy 61 CAPLPKAKSARSVRAQRHTDMPKTK 86  
 Db 110 CAPLPKAKSARSVRAQRHTDMPKTK 135

RESULT 14

B27804  
 Insulin-like growth factor IA precursor - rat  
 N:Alternate names: IGF-1A; somatomedin C  
 C:Species: Rattus norvegicus (Norway rat)  
 C>Date: 16-Mar-1989 #sequence revision 16-Mar-1989 #text change 21-Jul-2000  
 C:Accession: B27804; A27849; JH0133; A28504; JN0088; A32857; A61096  
 R:Shimatsu, A.; Rotwein, P.  
 J. Biol. Chem. 262, 7894-7900, 1987  
 A:Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence, and  
 A:Reference number: A27804; MUID:87222423; PMID:3034509  
 A:Accession: B27804  
 A:Molecule type: DNA  
 A:Residues: 1-153 <SHI>  
 A:Cross-references: GB:M15651; GB:J02743; NID:G204297; PIDN:AAA4125.1; PID:G204300  
 R:Casella, S.J.; Smith, E.P.; Van Wyk, J.J.; Joseph, D.R.; Hynes, M.A.; Hoyt, E.C.; Lund  
 DNA 6, 325-330, 1987  
 A:Title: Isolation of rat testis cDNAs encoding an insulin-like growth factor I precursor  
 A:Reference number: A27849; MUID:88003970; PMID:3552906  
 A:Accession: A27849  
 A:Molecule type: mRNA  
 A:Residues: 27-153 <CAS>  
 A:Cross-references: GB:M1735; NID:G204751; PIDN:AAA1386.1; PID:G204752  
 R:Kato, H.; Otsuchi, A.; Mura, Y.; Noguchi, T.  
 Agric. Biol. Chem. 54, 1593-1601, 1990  
 A:Title: A new cDNA clone relating to larger molecular species of rat insulin-like growth  
 A:Reference number: JH0133; MUID:91103966; PMID:1368571  
 A:Accession: JH0133  
 A:Molecule type: mRNA  
 A:Residues: 27-153 <KAT>  
 A:Cross-references: GB:D00698; NID:G220780; PIDN:BA00604.1; PID:G220781  
 R:Murphy, L.J.; Bell, G.I.; Duckworth, M.L.; Friesen, H.G.  
 Endocrinology 121, 684-691, 1987

A:Title: Identification, characterization, and regulation of a rat complementary deoxy  
 A:Reference number: A28504; MUID:87246437; PMID:3595538  
 A:Accession: A28504  
 A:Molecule type: mRNA  
 A:Residues: 46-153 <MRU>  
 A:Cross-references: GB:M17714; NID:G204324; PIDN:AAA1227.1; PID:G204325  
 R:Kato, H.; Takenaka, A.; Mura, Y.; Nishiyama, M.; Noguchi, T.  
 Agric. Biol. Chem. 54, 2225-2230, 1990  
 A:Title: Evidence of introduction by molecular cloning of artificial inverted sequence  
 A:Reference number: JN0088; MUID:91136779; PMID:1368576  
 A:Accession: JN0088  
 A:Molecule type: mRNA  
 A:Residues: 22-153 <KA2>  
 A:Experimental source: liver  
 A:Note: the authors present evidence that this mRNA may contain an artifactual inversi  
 R:Tamura, K.; Kobayashi, M.; Ishii, Y.; Tamura, T.; Hashimoto, K.; Nakamura, S.; Niwa,  
 J. Biol. Chem. 264, 5616-5621, 1989  
 A:Title: Primary structure of rat insulin-like growth factor-I and its biological acti  
 A:Reference number: A32857; MUID:89174609; PMID:2538424  
 A:Accession: A32857  
 A:Molecule type: protein  
 A:Residues: 49-118 <TAM>  
 R:Canalis, E.; McCarthy, T.; Gentilella, M.  
 Endocrinology 122, 22-27, 1988  
 A:Title: Isolation and characterization of insulin-like growth factor I (somatomedin-C  
 A:Reference number: A61096; MUID:88082445; PMID:3335205  
 A:Accession: A61096  
 A:Molecule type: protein  
 A:Residues: 49-53, 55-65 <CAN>  
 C:Superfamily: insulin  
 A:Keywords: alternative splicing; growth factor  
 F:49-118/Product: insulin-like growth factor I #status experimental <ILG>

Query Match 75.3%; Score 450; DB 2; Length 153;  
 Best Local Similarity 95.3%; Pred. No. 1,2e-39;  
 Matches 82; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 GPEITCGAEIVDALQFVCGRGFFYFNKPTGYGSSSSRRAPQTGIYDECCFSCDLRLIEMV 60  
 Db 49 GPEITCGAEIVDALQFVCGRGFFYFNKPTGYGSSSSRRAPQTGIYDECCFSCDLRLIEMV 108

Qy 61 CAPLPKAKSARSVRAQRHTDMPKTK 86  
 Db 109 CAPLPKAKSARSVRAQRHTDMPKTK 134

RESULT 15

A25540  
 Insulin-like growth factor IA precursor - mouse  
 N:Alternate names: IGF-1A; somatomedin C  
 C:Species: Mus musculus (house mouse)  
 C>Date: 30-Jun-1988 #sequence revision 30-Jun-1988 #text change 16-Jul-1999  
 C:Accession: A25540; I55295; I59090; B25540  
 R:Bell, G.I.; Stempier, M.M.; Ford, N.M.; Rall, L.B.  
 Nucleic Acids Res. 14, 7873-7882, 1986  
 A:Title: Sequences of liver cDNAs encoding two different mouse insulin-like growth fac  
 A:Reference number: A53643; MUID:87040760; PMID:3774549  
 A:Accession: A25540  
 A:Molecule type: mRNA  
 A:Residues: 1-127 <BEI>  
 A:Cross-references: GB:X04480; NID:G51801; PIDN:CAA28168.1; PID:G51802  
 R:Tollfrees, S.E.; Lajars, R.; McCusker, R.H.; Clemmons, D.R.; Rotwein, P.  
 J. Biol. Chem. 264, 13810-13817, 1989  
 A:Title: Insulin-like growth factors (IGF) in muscle development. Expression of IGF-I,  
 A:Reference number: I55295; MUID:89340472; PMID:2474537  
 A:Accession: I55295  
 A:Status: preliminary; translated from GB/EMBL/DBJ  
 A:Molecule type: DNA  
 A:Residues: 49-108 <RES>  
 A:Cross-references: GB:M28139; NID:G341835; PIDN:AAA74553.1; PID:G550489  
 R:Mathews, L.S.; Norstedt, G.; Palmieri, R.D.  
 Proc. Natl. Acad. Sci. U.S.A. 83, 9343-9347, 1986  
 A:Title: Regulation of insulin-like growth factor I gene expression by growth hormone.

A/Reference number: I59090; MUID:87092249; PMID:3467309  
A/Accession: I59090  
A/Status: preliminary; translated from GB/EMBL/DBJ  
A/Molecule type: DNA  
A/Residues: 49-108 <KE2>  
A/Cross-references: GB:M14983; NID:g194495; PIDN:AAA37925.1; PID:g194496  
C/Genetics:  
A/Gene: igf1  
C/Superfamily: insulin  
C/Keywords: alternative splicing; growth factor  
F/1-22/Domain: signal sequence #status predicted <SIG>  
F/23-127/Product: insulin-like growth factor IA (active) #status predicted <MAT>  
F/23-51/Domain: insulin chain B-like #status predicted <DOB>  
F/52-63/Domain: insulin connecting C peptide-like #status predicted <DOC>  
F/64-84/Domain: insulin chain A-like #status predicted <DOA>  
F/85-92/Domain: D peptide #status predicted <DOB>  
F/93-127/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>

Query Match 74.7%; Score 447; DB 2; Length 127;  
Best Local Similarity 94.2%; Pred. No. 2.1e-39;  
Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY	1	GPETLCGAEIVDALQFVCGPRGFYFNKPTGYGSSRRAPQGTIVDCCFRSCDRLRLMY	60
DB	23	GPETLCGAEIVDALQFVCGPRGFYFNKPTGYGSSIRRAPQGTIVDCCFRSCDRLRLMY	82
QY	61	CAPLKPAKSARSVRAQRHDMPTQK	86
DB	83	CAPLKPTKARSIRAPQRHDMPTQK	108

Search completed: March 3, 2004, 07:56:14  
Job time : 12.5964 secs



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OM protein - protein search, using sw model

Run on: March 3, 2004, 07:55:33 ; Search time 150.09 Seconds  
(without alignments)  
154.752 Million cell updates/sec

Title: US-09-852-261-2  
Perfect score: 598  
Sequence: 1 GPEITLGAELVDALQFVCGD.....STNKTKSQRKGSFPEHK 110

Scoring table: BLOSUM62  
Gapop 10.0, Gapext 0.5

Searched: 809742 seqs, 21153253 residues

Total number of hits satisfying chosen parameters: 809742

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%

Listing first 45 summaries

Database : Published Applications\_AA:  
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2: /cgn2\_6/ptodata/1/pubpaa/PCF\_NEW\_PUB.pep.\*  
3: /cgn2\_6/ptodata/1/pubpaa/US06\_NEW\_PUB.pep.\*  
4: /cgn2\_6/ptodata/1/pubpaa/US06\_PUBCOMB.pep.\*  
5: /cgn2\_6/ptodata/1/pubpaa/US07\_NEW\_PUB.pep.\*  
6: /cgn2\_6/ptodata/1/pubpaa/PCFUS\_PUBCOMB.pep.\*  
7: /cgn2\_6/ptodata/1/pubpaa/US08\_NEW\_PUB.pep.\*  
8: /cgn2\_6/ptodata/1/pubpaa/US08\_PUBCOMB.pep.\*  
9: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pep.\*  
10: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pep.\*  
11: /cgn2\_6/ptodata/1/pubpaa/US09C\_PUBCOMB.pep.\*  
12: /cgn2\_6/ptodata/1/pubpaa/US09C\_NEW\_PUB.pep.\*  
13: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep.\*  
14: /cgn2\_6/ptodata/1/pubpaa/US10\_PUBCOMB.pep.\*  
15: /cgn2\_6/ptodata/1/pubpaa/US10C\_PUBCOMB.pep.\*  
16: /cgn2\_6/ptodata/1/pubpaa/US10C\_NEW\_PUB.pep.\*  
17: /cgn2\_6/ptodata/1/pubpaa/US60\_NEW\_PUBCOMB.pep.\*  
18: /cgn2\_6/ptodata/1/pubpaa/US60\_PUBCOMB.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	598	100.0	110	9	US-09-852-261-2
2	572.5	95.7	111	9	US-09-852-261-2
3	560	93.6	195	15	US-10-443-466A-20
4	521.5	87.2	133	14	US-10-161-088-2
5	494.5	82.7	111	9	US-09-852-261-4
6	468	78.3	105	9	US-09-852-261-10
7	468	78.3	137	14	US-10-251-661-8
8	468	78.3	153	9	US-09-919-497-74
9	468	78.3	153	14	US-10-136-639-3
10	468	78.3	153	14	US-10-207-655-55
11	468	77.8	105	9	US-09-852-261-14
12	463	77.4	105	14	US-10-338-114-3
13	463	77.4	153	14	US-10-338-114-2
14	457.5	76.5	151	9	US-09-921-398-41
15	457.5	76.5	191	14	US-10-280-826-41

Result	Score	Query Match	Length	ID	Description
15	423	70.7	105	9	US-09-852-261-12
17	386	64.5	953	14	US-10-241-596-14
18	385	64.4	70	9	US-09-848-664-25
19	385	64.4	70	9	US-09-848-664-30
20	385	64.4	70	9	US-09-903-327A-8
21	385	64.4	70	10	US-09-858-935B-3
22	385	64.4	70	13	US-10-028-410-1
23	385	64.4	70	13	US-10-066-009A-1
24	385	64.4	70	14	US-10-136-639-1
25	385	64.4	70	14	US-10-136-641-7
26	385	64.4	70	14	US-10-444-326-1
27	385	64.4	70	15	US-10-272-531A-7
28	385	64.4	70	15	US-10-272-531A-7
29	385	64.4	70	16	US-10-444-262-1
30	385	64.4	118	14	US-10-179-046-14
31	385	64.4	155	9	US-09-921-398-39
32	385	64.4	155	14	US-10-280-826-39
33	385	64.4	510	9	US-09-903-327A-12
34	378	63.2	91	14	US-10-323-046-42
35	317	53.0	68	14	US-10-339-740-218
36	300	50.2	56	13	US-10-066-009A-5
37	237	39.6	180	14	US-10-207-655-57
38	231	38.6	156	9	US-09-972-809-7
39	231	38.6	180	14	US-10-061-119-38
40	231	38.6	180	14	US-10-136-841-2
41	231	38.6	180	14	US-10-097-340-145
42	231	38.6	180	15	US-10-295-027-199
43	231	38.6	180	15	US-10-272-531A-2
44	231	38.6	180	15	US-10-173-999-99
45	231	38.6	180	15	US-10-272-483A-2

## ALIGNMENTS

RESULT 1  
US-09-852-261-2  
; Sequence 2, Application US/09852261  
; Patent No. US20020083477A1  
; GENERAL INFORMATION:  
; APPLICANT: GOLDSPIRK, GEOFFREY  
; APPLICANT: TERNENGI, GIORGIO  
; TITLE OF INVENTION: REPAIR OF NERVE DAMAGE  
; FILE REFERENCE: 117-351  
; CURRENT APPLICATION NUMBER: US/09/852,261  
; CURRENT FILING DATE: 2001-05-10  
; PRIOR APPLICATION NUMBER: GB 0011278.9  
; PRIOR FILING DATE: 2000-05-10  
; NUMBER OF SEQ ID NOS: 14  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 2  
; LENGTH: 110  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-09-852-261-2

Query Match 100.0%; Score 598; DB 9; Length 110;  
Best Local Similarity 100.0%; Pred. No. 2.2e-61;  
Matches 110; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITLGAELVDALQFVCGDGFYFNKPTGYGSSRRAPQGTGVDECCFRSCDRLRLMY 60  
DB 1 GPEITLGAELVDALQFVCGDGFYFNKPTGYGSSRRAPQGTGVDECCFRSCDRLRLMY 60

QY 61 CAPLPAPASASVRAQRHTDMPKTKYQPPSTNKTKSQRKGSFPEHK 110  
DB 61 CAPLPAPASASVRAQRHTDMPKTKYQPPSTNKTKSQRKGSFPEHK 110

RESULT 2  
US-09-852-261-2  
; Sequence 6, Application US/09852261  
; Patent No. US20020083477A1

GENERAL INFORMATION:  
APPLICANT: GOLDSPIK, GEOFFREY  
APPLICANT: TEREHGT, GIORGIO  
TITLE OF INVENTION: REPAIR OF NERVE DAMAGE  
FILE REFERENCE: 117-351  
CURRENT APPLICATION NUMBER: US/09/852,261  
CURRENT FILING DATE: 2001-05-10  
PRIOR APPLICATION NUMBER: GB 0011278.9  
PRIOR FILING DATE: 2000-05-10  
NUMBER OF SEQ ID NOS: 14  
SOFTWARE: Patent Ver. 2.1  
SEQ ID NO 6  
LENGTH: 111  
TYPE: PRT  
ORGANISM: Oryctolagus cuniculus  
US-09-852-261-6

Query Match 95.7%; Score 572.5; DB 9; Length 111;  
Best Local Similarity 96.4%; Pred. No. 2e-58;  
Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

QY 1 GPEITCGAELVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEMY 60  
DB 1 GPEITCGAELVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEMY 60  
QY 61 CAPLKPASARSYRAQRHTDMPKTOKYOPSTNKNTKSO-RRKGSFEEHK 110  
DB 61 CAPLKPASARSYRAQRHTDMPKTOKYOPSTNKNTKSO-RRKGSFEEHK 111

## RESULT 3

US-10-443-466A-20  
Sequence 20, Application US/10443466A  
Publication No. US20040018191A1

## GENERAL INFORMATION:

APPLICANT: Wang, Yan  
APPLICANT: Pachter, Jonathan A  
APPLICANT: Hailey, Judith  
APPLICANT: Greenberg, Robert  
APPLICANT: Leonard, Presta  
APPLICANT: Brans, Peter  
APPLICANT: Reingersh, Diane  
APPLICANT: Williams, Denise  
APPLICANT: Srivavaan, Mohan  
TITLE OF INVENTION: NEUTRALIZING HUMAN ANTI-IGFR ANTIBODY  
FILE REFERENCE: OC01533-K-US  
CURRENT APPLICATION NUMBER: US/10/443,466A  
CURRENT FILING DATE: 2003-05-22  
PRIOR APPLICATION NUMBER: 60/383,459  
PRIOR FILING DATE: 2002-05-24  
PRIOR APPLICATION NUMBER: 60/393,214  
PRIOR FILING DATE: 2002-07-02  
PRIOR APPLICATION NUMBER: 60/436,254  
PRIOR FILING DATE: 2002-12-23  
NUMBER OF SEQ ID NOS: 120  
SOFTWARE: Patent Ver. 3.1  
SEQ ID NO 20  
LENGTH: 195  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-443-466A-20

Query Match 93.6%; Score 560; DB 15; Length 195;  
Best Local Similarity 100.0%; Pred. No. 1.1e-56;  
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEMY 60  
DB 49 GPEITCGAELVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEMY 108  
QY 61 CAPLKPASARSYRAQRHTDMPKTOKYOPSTNKNTKSO-RRKGSFEEHK 103  
DB 109 CAPLKPASARSYRAQRHTDMPKTOKYOPSTNKNTKSO-RRKGSFEEHK 151

## RESULT 4

US-10-161-088-2  
Sequence 2, Application US/10161088  
Publication No. US2003007761A1  
GENERAL INFORMATION:  
APPLICANT: Parrow, Vendela  
APPLICANT: Rosegren, Linda  
TITLE OF INVENTION: NEW METHODS  
FILE REFERENCE: 13425-111001  
CURRENT APPLICATION NUMBER: US/10/161,088  
CURRENT FILING DATE: 2002-05-31  
PRIOR APPLICATION NUMBER: SE 0101934-8  
PRIOR FILING DATE: 2001-06-01  
NUMBER OF SEQ ID NOS: 3  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 2  
LENGTH: 133  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-161-088-2

Query Match 87.2%; Score 521.5; DB 14; Length 133;  
Best Local Similarity 89.2%; Pred. No. 2e-52;  
Matches 99; Conservative 2; Mismatches 9; Indels 1; Gaps 1;

QY 1 GPEITCGAELVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEMY 60  
DB 23 GPEITCGAELVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEMY 82  
QY 61 CAPLKPASARSYRAQRHTDMPKTOKYOPSTNKNTKSO-RRKGSFEEHK 110  
DB 83 CAPLKPASARSYRAQRHTDMPKTOKYOPSTNKNTKSO-RRKGSFEEHK 133

## RESULT 5

US-09-852-261-4  
Sequence 4, Application US/09852261  
Patent No. US20020083477A1  
GENERAL INFORMATION:  
APPLICANT: GOLDSPIK, GEOFFREY  
APPLICANT: TEREHGT, GIORGIO  
TITLE OF INVENTION: REPAIR OF NERVE DAMAGE  
FILE REFERENCE: 117-351  
CURRENT APPLICATION NUMBER: US/09/852,261  
CURRENT FILING DATE: 2001-05-10  
PRIOR APPLICATION NUMBER: GB 0011278.9  
PRIOR FILING DATE: 2000-05-10  
NUMBER OF SEQ ID NOS: 14  
SOFTWARE: Patent Ver. 2.1  
SEQ ID NO 4  
LENGTH: 111  
TYPE: PRT  
ORGANISM: Rattus sp.  
US-09-852-261-4

Query Match 82.7%; Score 494.5; DB 9; Length 111;  
Best Local Similarity 85.6%; Pred. No. 2.1e-49;  
Matches 95; Conservative 2; Mismatches 13; Indels 1; Gaps 1;

QY 1 GPEITCGAELVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEMY 60  
DB 1 GPEITCGAELVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEMY 60  
QY 61 CAPLKPASARSYRAQRHTDMPKTOKYOPSTNKNTKSO-RRKGSFEEHK 110  
DB 61 CAPLKPASARSYRAQRHTDMPKTOKYOPSTNKNTKSO-RRKGSFEEHK 111

## RESULT 6

US-09-852-261-10  
Sequence 10, Application US/09852261

Patent No. US20020083477A1  
GENERAL INFORMATION:  
APPLICANT: GOLDSPIRK, GEOFFREY  
APPLICANT: TERENSHI, GIORGIO  
TITLE OF INVENTION: REPAIR OF NERVE DAMAGE  
FILE REFERENCE: 117-351  
CURRENT FILING DATE: 2001-05-10  
CURRENT APPLICATION NUMBER: US/09/852,261  
PRIOR FILING DATE: 2001-05-10  
PRIOR APPLICATION NUMBER: GB 0011278.9  
NUMBER OF SEQ ID NOS: 14  
SOFTWARE: PatentIn Ver. 2.1  
SEQ ID NO 10  
LENGTH: 105  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-09-852-261-10

Query Match 78.3%; Score 468; DB 9; Length 105;  
Best Local Similarity 100.0%; Pred. No. 2.3e-46;  
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIYDECCFRSCDLRLLEMY 60  
DB 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIYDECCFRSCDLRLLEMY 60  
QY 61 CAPLKPASARSVRAQRHTDMPKTOK 86  
DB 61 CAPLKPASARSVRAQRHTDMPKTOK 86

RESULT 7  
US-10-251-661-8  
Sequence 8, Application US/10251661  
Publication No. US2003016555A1  
GENERAL INFORMATION:  
APPLICANT: Alberini, Cristina M.  
APPLICANT: Bear, Mark F.  
TITLE OF INVENTION: Methods and Compositions for Regulating  
FILE REFERENCE: 3439.1001-003  
CURRENT FILING DATE: 2002-09-20  
CURRENT APPLICATION NUMBER: US/10/251,661  
PRIOR FILING DATE: 2000-03-31  
PRIOR APPLICATION NUMBER: PCT/US01/10661  
PRIOR FILING DATE: 2001-04-02  
NUMBER OF SEQ ID NOS: 12  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 8  
LENGTH: 137  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-251-661-8

Query Match 78.3%; Score 468; DB 14; Length 137;  
Best Local Similarity 100.0%; Pred. No. 3.2e-46;  
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIYDECCFRSCDLRLLEMY 60  
DB 33 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIYDECCFRSCDLRLLEMY 92  
QY 61 CAPLKPASARSVRAQRHTDMPKTOK 86  
DB 93 CAPLKPASARSVRAQRHTDMPKTOK 118

RESULT 8  
US-09-919-497-74  
Sequence 74, Application US/09919497  
Patent No. US20020106662A1  
GENERAL INFORMATION:

APPLICANT: Mutter, George L.  
TITLE OF INVENTION: PROGNOSTIC CLASSIFICATION OF ENDOMETRIAL CANCER  
FILE REFERENCE: B0801/7225  
CURRENT FILING DATE: US/09/919,497  
CURRENT APPLICATION NUMBER: US 60/221,735  
PRIOR FILING DATE: 2000-07-31  
NUMBER OF SEQ ID NOS: 100  
SOFTWARE: PatentIn version 3.0  
SEQ ID NO 74  
LENGTH: 153  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-09-919-497-74

Query Match 78.3%; Score 468; DB 9; Length 153;  
Best Local Similarity 100.0%; Pred. No. 3.6e-46;  
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIYDECCFRSCDLRLLEMY 60  
DB 49 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIYDECCFRSCDLRLLEMY 108  
QY 61 CAPLKPASARSVRAQRHTDMPKTOK 86  
DB 109 CAPLKPASARSVRAQRHTDMPKTOK 134

RESULT 9  
US-10-136-639-3  
Sequence 3, Application US/10136639  
Publication No. US20030072761A1  
GENERAL INFORMATION:  
APPLICANT: Lebowitz, Jonathan  
TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR TARGETING PROTEINS ACROSS THE BLOOD  
FILE REFERENCE: STM-008  
CURRENT FILING DATE: 2002-09-06  
CURRENT APPLICATION NUMBER: US 60/329,650  
PRIOR FILING DATE: 2001-10-16  
NUMBER OF SEQ ID NOS: 4  
SOFTWARE: PatentIn version 3.0  
SEQ ID NO 3  
LENGTH: 153  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-136-639-3

Query Match 78.3%; Score 468; DB 14; Length 153;  
Best Local Similarity 100.0%; Pred. No. 3.6e-46;  
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIYDECCFRSCDLRLLEMY 60  
DB 49 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIYDECCFRSCDLRLLEMY 108  
QY 61 CAPLKPASARSVRAQRHTDMPKTOK 86  
DB 109 CAPLKPASARSVRAQRHTDMPKTOK 134

RESULT 10  
US-10-207-655-55  
Sequence 55, Application US/10207655  
Publication No. US20030118592A1  
GENERAL INFORMATION:  
APPLICANT: Ledbetter, Jeffrey A.  
APPLICANT: Hayden-Ledbetter, Martha S.  
TITLE OF INVENTION: BINDING DOMAIN-IMMUNOGLOBULIN FUSION PROTEINS  
FILE REFERENCE: 390069.401C1  
CURRENT FILING DATE: 2002-07-25

NUMBER OF SEQ ID NOS: 426  
SOFTWARE: Patentin version 3.0  
SEQ ID NO 55  
LENGTH: 153  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-207-655-55

Query Match  
Best Local Similarity 78.3%; Score 468; DB 14; Length 153;  
Best Local Similarity 100.0%; Pred. No. 3.6e-46;  
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIYDECCFRSCDLRLRLEMY 60  
DB 49 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIYDECCFRSCDLRLRLEMY 108  
QY 61 CAPLKPAKSARSVRAQRHTDMPKTXK 86  
DB 109 CAPLKPAKSARSVRAQRHTDMPKTXK 134

RESULT 11  
US-09-852-261-14  
Sequence 14, Application US/09852261  
Patent No. US20020083477A1  
GENERAL INFORMATION:  
APPLICANT: GOLDSPIK, GEOFFREY  
APPLICANT: TERENGT, GIORGIO  
TITLE OF INVENTION: REPAIR OF NERVE DAMAGE  
FILE REFERENCE: 117-351  
CURRENT APPLICATION NUMBER: US/09/852,261  
CURRENT FILING DATE: 2001-05-10  
PRIOR APPLICATION NUMBER: GB 0011278.9  
PRIOR FILING DATE: 2000-05-10  
NUMBER OF SEQ ID NOS: 14  
SOFTWARE: Patentin Ver. 2.1  
SEQ ID NO 14  
LENGTH: 105  
TYPE: PRT  
ORGANISM: Oryctolagus cuniculus  
US-09-852-261-14

Query Match  
Best Local Similarity 77.8%; Score 465; DB 9; Length 105;  
Best Local Similarity 98.8%; Pred. No. 5.1e-46;  
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIYDECCFRSCDLRLRLEMY 60  
DB 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIYDECCFRSCDLRLRLEMY 60  
QY 61 CAPLKPAKSARSVRAQRHTDMPKTXK 86  
DB 61 CAPLKPAKSARSVRAQRHTDMPKTXK 86

RESULT 12  
US-10-238-114-3  
Sequence 3, Application US/10238114  
Patent No. US20030100073A1  
GENERAL INFORMATION:  
APPLICANT: Merital  
APPLICANT: ANDREONI, Christine Michele  
TITLE OF INVENTION: IGF-1 AS FELINE VACCINE ADJUVANT, IN PARTICULAR AGAINST FELINE RH  
FILE REFERENCE: 454313-3165.1  
CURRENT APPLICATION NUMBER: US/10/238,114  
CURRENT FILING DATE: 2002-09-10  
PRIOR APPLICATION NUMBER: FR 01 11736  
PRIOR FILING DATE: 2001-09-11  
PRIOR APPLICATION NUMBER: US 60/318,666  
PRIOR FILING DATE: 2001-09-12  
NUMBER OF SEQ ID NOS: 20  
SOFTWARE: Patentin version 3.1  
SEQ ID NO 3

LENGTH: 105  
TYPE: PRT  
ORGANISM: Felis catus  
US-10-238-114-3

Query Match  
Best Local Similarity 77.4%; Score 463; DB 14; Length 105;  
Best Local Similarity 98.8%; Pred. No. 8.7e-46;  
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIYDECCFRSCDLRLRLEMY 60  
DB 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIYDECCFRSCDLRLRLEMY 60  
QY 61 CAPLKPAKSARSVRAQRHTDMPKTXK 86  
DB 61 CAPLKPAKSARSVRAQRHTDMPKTXK 86

RESULT 13  
US-10-238-114-2  
Sequence 2, Application US/10238114  
Patent No. US20030100073A1  
GENERAL INFORMATION:  
APPLICANT: Merital  
APPLICANT: ANDREONI, Christine Michele  
TITLE OF INVENTION: IGF-1 AS FELINE VACCINE ADJUVANT, IN PARTICULAR AGAINST FELINE  
FILE REFERENCE: 454313-3165.1  
CURRENT APPLICATION NUMBER: US/10/238,114  
CURRENT FILING DATE: 2002-09-10  
PRIOR APPLICATION NUMBER: FR 01 11736  
PRIOR FILING DATE: 2001-09-11  
PRIOR APPLICATION NUMBER: US 60/318,666  
PRIOR FILING DATE: 2001-09-12  
NUMBER OF SEQ ID NOS: 20  
SOFTWARE: Patentin version 3.1  
SEQ ID NO 2  
LENGTH: 153  
TYPE: PRT  
ORGANISM: Felis catus  
US-10-238-114-2

Query Match  
Best Local Similarity 77.4%; Score 463; DB 14; Length 153;  
Best Local Similarity 98.8%; Pred. No. 1.4e-45;  
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIYDECCFRSCDLRLRLEMY 60  
DB 49 GPEITCGAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQTGIYDECCFRSCDLRLRLEMY 108  
QY 61 CAPLKPAKSARSVRAQRHTDMPKTXK 86  
DB 109 CAPLKPAKSARSVRAQRHTDMPKTXK 134

RESULT 14  
US-09-921-398-41  
Sequence 41, Application US/09921398  
Patent No. US20020055169A1  
GENERAL INFORMATION:  
APPLICANT: Tekamp-Olson, Patricia  
TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS  
PROTEINS IN YEAST  
NUMBER OF SEQUENCES: 41  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP  
STREET: 3605 Glenwood Ave. Suite 310  
CITY: Raleigh  
STATE: NC  
COUNTRY: US  
ZIP: 27622  
COMPUTER READABLE FORM:  
MEDIUM TYPE: floppy disk  
COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/921,398  
FILING DATE: 02-Aug-2001  
CLASSIFICATION: <Unknown>  
ATTORNEY/AGENT INFORMATION:  
NAME: Spruill, W. Murray  
REGISTRATION NUMBER: 32,943  
REFERENCE/DOCKET NUMBER: 5784-4  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 919 420 2202  
TELEFAX: 919 881 3175  
INFORMATION FOR SEQ ID NO: 41:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 191 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
SEQUENCE DESCRIPTION: SEQ ID NO: 41:  
US-09-921-398-41

Query Match 76.5%; Score 457.5; DB 9; Length 191;  
Best Local Similarity 98.9%; Pred. No. 7.8e-45;  
Matches 86; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 1 GPEITCGAELVDALQVCGDGRGFYFNKPTGYGSSSRAPQGTIVDECCFRSCDLRLRLEMY 60  
DB 86 GPEITCGAELVDALQVCGDGRGFYFNKPTGYGSSSRAPQGTIVDECCFRSCDLRLRLEMY 145  
QY 61 CAPLKPAKSA-RSVRAQRHTDMPKTK 86  
DB 146 CAPLKPAKSAKRSVRAQRHTDMPKTK 172

## RESULT 15

US-10-280-826-41  
Sequence 41, Application US/10280826  
Publication No. US20030077831A1

## GENERAL INFORMATION:

APPLICANT: Tekamp-Olson, Patricia  
TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS  
PROTEINS IN YEAST

NUMBER OF SEQUENCES: 41

CORRESPONDENCE ADDRESS:

ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP  
STREET: 3605 Glenwood Ave., Suite 310  
CITY: Raleigh  
STATE: NC

COUNTRY: US

ZIP: 27622

## COMPUTER READABLE FORM:

MEDIUM TYPE: floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/10/280,826

FILING DATE: 25-Oct-2002

CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/08/989,251

FILING DATE: <Unknown>

ATTORNEY/AGENT INFORMATION:

NAME: Spruill, W. Murray

REGISTRATION NUMBER: 32,943

REFERENCE/DOCKET NUMBER: 5784-4

TELECOMMUNICATION INFORMATION:

TELEPHONE: 919 420 2202

TELEFAX: 919 881 3175

INFORMATION FOR SEQ ID NO: 41:

SEQUENCE CHARACTERISTICS:

LENGTH: 191 amino acids

TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
SEQUENCE DESCRIPTION: SEQ ID NO: 41:  
US-10-280-826-41

Query Match 76.5%; Score 457.5; DB 14; Length 191;  
Best Local Similarity 98.9%; Pred. No. 7.8e-45;  
Matches 86; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 1 GPEITCGAELVDALQVCGDGRGFYFNKPTGYGSSSRAPQGTIVDECCFRSCDLRLRLEMY 60  
DB 86 GPEITCGAELVDALQVCGDGRGFYFNKPTGYGSSSRAPQGTIVDECCFRSCDLRLRLEMY 145  
QY 61 CAPLKPAKSA-RSVRAQRHTDMPKTK 86  
DB 146 CAPLKPAKSAKRSVRAQRHTDMPKTK 172

Search completed: March 3, 2004, 08:14:23  
Job time: 151.09 secs

GenCore version 5.1.6  
Copyright (c) 1993 - 2004 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: March 3, 2004, 07:50:54 ; Search time 33.1325 Seconds  
(without alignments)  
1047.520 Million cell updates/sec

Title: US-09-852-261-2

Perfect score: 598  
Sequence: 1 GPEITLGAELVDALQVCD.....STNKYTKSGRRKSGTFEEHK 110

Scoring table: BLOSUM62  
Gapop 10.0 ; Gapext 0.5

Searched: 1017041 seqs, 315518202 residues

Total number of hits satisfying chosen parameters: 1017041

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database :

SPTREMBL\_25:\*

- 1: sp\_archaea:\*
- 2: sp\_bacteria:\*
- 3: sp\_fungi:\*
- 4: sp\_human:\*
- 5: sp\_invertebrate:\*
- 6: sp\_mammal:\*
- 7: sp\_mhc:\*
- 8: sp\_organelle:\*
- 9: sp\_phase:\*
- 10: sp\_plant:\*
- 11: sp\_rodent:\*
- 12: sp\_virus:\*
- 13: sp Vertebrate:\*
- 14: sp Unclassified:\*
- 15: sp\_rvirus:\*
- 16: sp\_bacteriaph:\*
- 17: sp\_archaeap:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	590	98.7	139	4	Q13429
2	486	81.3	165	11	Q8CAR0
3	468	78.3	130	4	Q9NP10
4	468	78.3	137	4	Q14620
5	463	77.4	133	6	Q9N1C1
6	458	76.6	139	6	P79167
7	450	75.3	127	11	P97899
8	447	74.7	153	11	Q8C4U6
9	422	70.6	153	13	Q93380
10	403.5	67.5	161	13	Q91230
11	401	67.1	145	13	Q91475
12	401	67.1	155	13	Q91162
13	401	67.1	188	13	P81268
14	399.5	66.8	188	13	Q91965
15	399.5	66.8	178	13	Q91B10
16	399	66.7	116	13	Q91161

17	399	66.7	149	13	Q91231	Q91231 oncorhynch
18	392	65.6	117	13	Q91476	Q91476 salmo salar
19	390.5	65.3	161	13	Q90V99	Q90V99 brachydanio
20	382.5	64.0	117	13	Q91914	Q91914 ctenopharynx
21	382	63.9	186	13	Q800Y5	Q800Y5 siganus gut
22	381	63.7	161	13	Q9PMK2	Q9PMK2 carassius a
23	379.5	63.5	161	13	Q98SR5	Q98SR5 megalobrama
24	378.5	63.5	161	13	Q800D5	Q800D5 carassius a
25	378	63.2	161	13	Q9Y182	Q9Y182 carassius a
26	377	63.0	185	13	Q57436	Q57436 paralicthy
27	377	63.0	186	13	Q93527	Q93527 paralicthy
28	377	63.0	186	13	Q71A77	Q71A77 perca flav
29	376.5	63.0	159	13	Q93607	Q93607 paralicthy
30	376	62.9	182	13	Q73720	Q73720 oreochromis
31	376	62.9	182	13	Q42289	Q42289 oreochromis
32	376	62.9	182	13	P79824	P79824 oreochromis
33	370	61.9	104	13	Q71107	Q71107 dicentrarch
34	370	61.9	108	13	Q800N0	Q800N0 morone chry
35	370	61.9	108	13	Q800M9	Q800M9 morone saxa
36	370	61.9	108	13	Q800M8	Q800M8 morone chry
37	370	61.9	108	13	Q800M7	Q800M7 morone amer
38	370	61.9	186	13	Q9P8X5	Q9P8X5 paralicthy
39	355.5	59.4	185	13	Q9Y157	Q9Y157 acanthopagr
40	355	59.4	66	6	Q9N156	Q9N156 capreolus c
41	351	58.7	184	13	Q42336	Q42336 myoxocephal
42	333.5	55.8	69	6	Q02807	Q02807 budaius bub
43	302	50.5	57	6	Q28236	Q28236 cervus elap
44	298.5	49.9	126	13	Q91442	Q91442 squaleus aca
45	278	46.5	62	13	Q91A40	Q91A40 carassius a

#### ALIGNMENTS

##### RESULT 1

Q13429 PRELIMINARY; PRT; 139 AA.

AC Q13429;  
DR 01-NOV-1996 (TREMBLrel. 01, Created)  
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)  
DE 01-JUN-2003 (TREMBLrel. 24, Last annotation update)  
DE Insulin-like growth factor-I (Fragment).  
GN IGF-I.  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
CC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Liver;  
RX MEDLINE=95237119; PubMed=7720641;  
RA Chew S.L., Lavender P., Clark A.J., Rose R.J.,  
RT "An alternatively spliced human insulin-like growth factor-I  
RT transcript with hepatic tissue expression that diverges away from the  
RT mitogenic IBI peptide."  
RT Endocrinology 136:1939-1944 (1995).  
RL Endocrinology 136:1939-1944 (1995).  
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).  
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
DR EMBL; U40870; AA96152.1; -.  
DR HSSP; P01343; 2GFI.  
DR GO; GO:0005576; C:extracellular; IEA.  
DR GO; GO:0005179; F:hormone activity; IEA.  
DR GO; GO:0007583; P:physiological processes; IEA.  
DR InterPro; IPR004825; Ins/IGF/relax.  
DR Pfam; PF00049; Insulin; 1.  
DR PRINTS; PR00277; INSULINB.  
DR SMART; SM00078; IIGF; 1.  
DR PROSITE; PS00262; INSULIN; 1.  
FT NON TER 1  
SQ SEQUENCE 139 AA; 15611 MW; A62271872CA29DE4 CRC64;  
Query Match 98.7%; Score 590; DB 4; Length 139;  
Best Local Similarity 99.1%; Pred. No. 7e-63;

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Matches 109; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPEITLCAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPOGTIVDECCFRSCDLRLRLEMY 60
Db 30 GPEITLCAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPOGTIVDECCFRSCDLRLRLEMY 89

Qy 61 CAPLKPASARSVRAQRHTDMPKTKQKPSSTNKTKSQRKSGSTFEERK 110
Db 90 CAPLKPASARSVRAQRHTDMPKTKQKPSSTNKTKSQRKSGSTFEERK 139

RESULT 2
08CARO PRELIMINARY; PRT; 165 AA.
ID 08CARO;
AC 08CARO; 01-MAR-2003 (TREMBLrel. 23, Created)
DT 01-MAR-2003 (TREMBLrel. 23, Last sequence update)
DT 01-OCT-2003 (TREMBLrel. 25, Last annotation update)
DE Unknown EST.
DE C730016P09R1K.
GN Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Thymus;
RX MEDLINE=22354683; PubMed=12466851;
RA The FANTOM Consortium,
RA the FANTOM Genome Exploration Research Group Phase I & II Team;
RT "Analysis of the mouse transcriptome based on functional annotation of
RT 60,770 full-length cDNAs."
RL Nature 420:563-573(2002).
RL EMBL; AK038119; BAC29934.1;
DR MGD; MGI:2444166; C730016P09R1K.
DR GO; GO:0005176; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
SQ SEQUENCE 165 AA; 18473 MW; 2CE0D3DA981C93F8 CRC64;

Query Match 81.3%; Score 486; DB 11; Length 165;
Best Local Similarity 83.5%; Pred. No. 2,7e-50;
Matches 91; Conservative 4; Mismatches 14; Indels 0; Gaps 0;

Qy 1 GPEITLCAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPOGTIVDECCFRSCDLRLRLEMY 60
Db 33 GPEITLCAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPOGTIVDECCFRSCDLRLRLEMY 92

Qy 61 CAPLKPASARSVRAQRHTDMPKTKQKPSSTNKTKSQRKSGSTFEERK 109
Db 93 CAPLKPASARSVRAQRHTDMPKTKQKPSSTNKTKSQRKSGSTFEERK 141

RESULT 3
09NP10 PRELIMINARY; PRT; 130 AA.
ID 09NP10;
AC 09NP10;
DT 01-OCT-2000 (TREMBLrel. 15, Created)
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)
DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)
DE IGf1 protein precursor.
GN IGf1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.

Qy 1 GPEITLCAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPOGTIVDECCFRSCDLRLRLEMY 60
Db 26 GPEITLCAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPOGTIVDECCFRSCDLRLRLEMY 85

Qy 61 CAPLKPASARSVRAQRHTDMPKTKQKPSSTNKTKSQRKSGSTFEERK 86
Db 86 CAPLKPASARSVRAQRHTDMPKTKQKPSSTNKTKSQRKSGSTFEERK 111

RESULT 4
014620 PRELIMINARY; PRT; 137 AA.
ID 014620;
AC 014620;
DT 01-NOV-1996 (TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)
DE Insulin-like growth factor I precursor.
GN IGf1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC MEDLINE=91187000; PubMed=2082190;
RX Tobin G., Yee D., Brunner N., Rotwein P.;
RT "A novel human insulin-like growth factor I messenger RNA is expressed
RT in normal and tumor cells."
RL Mol. Endocrinol. 4:1914-1920(1990).
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M37484; AA52789.1;
DR PIR; A36552; A36552.
DR HSSP; P01343; 2GF1.
DR GO; GO:0005176; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
DR SIGNAL.
FT CHAIN 1 25 POTENTIAL.
FT SIGNAL 26 95 POTENTIAL.
SQ SEQUENCE 130 AA; 14406 MW; 970FBAECFA0352D CRC64;

Query Match 78.3%; Score 468; DB 4; Length 130;
Best Local Similarity 100.0%; Pred. No. 2.9e-48;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPEITLCAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPOGTIVDECCFRSCDLRLRLEMY 60
Db 26 GPEITLCAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPOGTIVDECCFRSCDLRLRLEMY 85

Qy 61 CAPLKPASARSVRAQRHTDMPKTKQKPSSTNKTKSQRKSGSTFEERK 86
Db 86 CAPLKPASARSVRAQRHTDMPKTKQKPSSTNKTKSQRKSGSTFEERK 111

RESULT 5
014620 PRELIMINARY; PRT; 137 AA.
ID 014620;
AC 014620;
DT 01-NOV-1996 (TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)
DE Insulin-like growth factor I precursor.
GN IGf1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC MEDLINE=91187000; PubMed=2082190;
RX Tobin G., Yee D., Brunner N., Rotwein P.;
RT "A novel human insulin-like growth factor I messenger RNA is expressed
RT in normal and tumor cells."
RL Mol. Endocrinol. 4:1914-1920(1990).
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M37484; AA52789.1;
DR PIR; A36552; A36552.
DR HSSP; P01343; 2GF1.
DR GO; GO:0005176; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
DR SIGNAL.
FT CHAIN 1 25 POTENTIAL.
FT SIGNAL 26 95 POTENTIAL.
SQ SEQUENCE 137 AA; 15177 MW; BFC00D11E32A875D CRC64;

```



Query Match 78.3%; Score 468; DB 4; Length 137;  
 Best Local Similarity 100.0%; Pred. No. 3.1e-48;  
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITLGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60  
 DB 33 GPEITLGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 92

QY 61 CAPLKPAAKSARSVRAQRHTDMPKTOX 86  
 DB 93 CAPLKPAAKSARSVRAQRHTDMPKTOX 118

RESULT 5  
 ID Q9N1C1 PRELIMINARY; PRT; 133 AA.

AC Q9N1C1;  
 DT 01-OCT-2000 (TREMBlrel. 15, Created)  
 DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)  
 DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)  
 DE Insulin-like growth factor I (Fragment).  
 GN IGFI.  
 OS Bos taurus (Bovine).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;  
 OC Bovidae; Bovinae; Bos.  
 OC NCBI\_TaxID=9913;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA Lien S., Karlsten A., Klemetsdal G., Vage D.I., Olsaker I.,  
 RA Klungland H., Aasland M., Heringstad B., Ruane J., Gomez-Raya L.;  
 RT "A primary screen of the bovine genome for quantitative trait loci  
 affecting twinning rate";  
 RT Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.  
 CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
 DR EMBL; AF210387; AAF72409.1; -;  
 DR EMBL; AF210385; AAF72409.1; JOINED.  
 DR EMBL; AF210386; AAF72409.1; JOINED.  
 DR HSSP; P01343; 2GFI.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005179; F:hormone activity; IEA.  
 DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 FT NON\_TER 1  
 FT SEQUENCE 133 AA; 14674 MW; A6991DBC75C103B CRC64;

Query Match 77.4%; Score 463; DB 6; Length 133;  
 Best Local Similarity 98.8%; Pred. No. 1.2e-47;  
 Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPEITLGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60  
 DB 29 GPEITLGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 88

QY 61 CAPLKPAAKSARSVRAQRHTDMPKTOX 86  
 DB 89 CAPLKPAAKSARSVRAQRHTDMPKTOX 114

RESULT 6  
 ID P79167 PRELIMINARY; PRT; 139 AA.

AC P79167;  
 DT 01-MAY-1997 (TREMBlrel. 03, Created)  
 DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)  
 DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)  
 DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C) (Fragments).  
 DT

GN IGFI.  
 OS Equus caballus (Horse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.  
 OC NCBI\_TaxID=9796;  
 RN [1]  
 RP SEQUENCE OF 1-122 FROM N.A.  
 RC TISSUE=Liver;  
 RX MEDLINE=97013467; PubMed=8860303;  
 RA Ote K., Rozell B., Gessbo A., Engstrom W.;  
 RT "Cloning and sequencing of an equine insulin-like growth factor I cDNA  
 and its expression in fetal and adult tissues";  
 RL Gen. Comp. Endocrinol. 102:11-15(1996).  
 RN [2]  
 RP SEQUENCE OF 123-139 FROM N.A.  
 RA Nixon A.J., Toland B.D., Sandell L.J.;  
 RL Submitted (JAN-1997) to the EMBL/GenBank/DBJ databases.  
 CC -1- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,  
 ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A  
 MUCH HIGHER GROWTH-PROMOTING ACTIVITY.  
 CC -1- SUBCELLULAR LOCATION: SECRETED.  
 CC -1- ALTERNATIVE PRODUCTS:  
 CC Event=Alternative splicing; Named isoforms=2;  
 CC Name=IGF-IB;  
 CC Isoid=P79167-1; Sequence=Displayed;  
 CC Name=IGF-IA;  
 CC Isoid=P51458-1; Sequence=External;  
 CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
 DR EMBL; U28070; AAA68952.1; -;  
 DR EMBL; U85271; AAB47484.1; -;  
 DR HSSP; P01343; 2GFI.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005083; F:growth factor activity; IEA.  
 DR GO; GO:0005179; F:hormone activity; IEA.  
 DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 DR Insulin family; Growth factor; Signal; Alternative splicing.  
 FT SIGNAL 1  
 FT PROPEP 2  
 FT CHAIN 48  
 FT DOMAIN 49 118 BY SIMILARITY.  
 FT DOMAIN 49 77 INSULIN-LIKE GROWTH FACTOR IB.  
 FT DOMAIN 78 89 B.  
 FT DOMAIN 90 110 A.  
 FT DOMAIN 111 118 C.  
 FT DOMAIN 119 139 D.  
 FT PROPEP 119 139 E PEPTIDE.  
 FT NON\_CONS 122 123  
 FT DISULFID 54 96 BY SIMILARITY.  
 FT DISULFID 66 109 BY SIMILARITY.  
 FT DISULFID 95 100 BY SIMILARITY.  
 FT NON\_TER 139  
 FT SEQUENCE 139 AA; 15612 MW; CDC0B8F19C261A2C CRC64;

Query Match 76.6%; Score 458; DB 6; Length 139;  
 Best Local Similarity 85.3%; Pred. No. 5.1e-47;  
 Matches 87; Conservative 1; Mismatches 2; Indels 12; Gaps 1;

QY 1 GPEITLGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60  
 DB 49 GPEITLGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108

QY 61 CAPLKPAAKSARSVRAQRHTDMPKTOX 102  
 DB 109 CAPLKPAAKSARSVRAQRHTDMPKTOX 138

RESULT 7  
 ID P97899 PRELIMINARY; PRT; 127 AA.

AC P97899;  
 DT 01-MAY-1997 (TREMBlrel. 03, Created)  
 DT

DT 01-MAY-1997 (TREMBlrel. 03, Last sequence update)  
 DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)  
 DE Insulin-like growth factor I.  
 OS Rattus sp.  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.  
 OX NCBI\_TaxID=10118;  
 RN [1]  
 RP PARTIAL SEQUENCE FROM N.A.  
 RX MEDLINE=87222423; PubMed=3034909;  
 RA Shimatsu A., Rotwein P.;  
 RT "Mosaic evolution of the insulin-like growth factors.";  
 RL J. Biol. Chem. 262:7894-7900(1987).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=91103966; PubMed=1368571;  
 RA Kato H., Okoshi A., Mura Y., Noguchi T.;  
 RT "A new cDNA clone relating to larger molecular species of rat insulin-  
 like growth factor-I mRNA.";  
 RL Agric. Biol. Chem. 54:1599-1601(1990).  
 CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
 DR EMBL; D00698; BAA00604.1; -.  
 DR HSSP; P01343; 2GFI.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005179; F:hormone activity; IEA.  
 DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULIN.  
 DR SMART; SM00078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 DR CHAIN 23  
 FT SEQUENCE 127 AA; 14106 MW; 104E126BCFCA5C57 CRC64;  
 SQ  
 Query Match 75.3%; Score 450; DB 11; Length 127;  
 Best Local Similarity 95.3%; Pred. No. 4.2e-46;  
 Matches 82; Conservative 1; Mismatches 3; Indels 0; Gaps 0;  
 QY 1 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIIVDECCFRSCDLRLRLMY 60  
 DB 23 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIIVDECCFRSCDLRLRLMY 82  
 QY 61 CAPLPAKARSVRAPQRTDMPKTK 86  
 DB 83 CAPLPAKARSVRAPQRTDMPKTK 108  
 RESULT 8  
 ID 08C4U6 PRELIMINARY; PRT; 153 AA.  
 AC 08C4U6;  
 DT 01-MAR-2003 (TREMBlrel. 23, Created)  
 DT 01-MAR-2003 (TREMBlrel. 23, Last sequence update)  
 DT 01-OCT-2003 (TREMBlrel. 25, Last annotation update)  
 DE Unknown BEST.  
 GN C730016P09RIK.  
 OS Mus musculus (Mouse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
 OX NCBI\_TaxID=10090;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=C57BL/6J; TISSUE=Cerebellum;  
 RX MEDLINE=22354683; PubMed=12466851;  
 RA The FANTOM Consortium;  
 RA the RIKEN Genome Exploration Research Group Phase I & II Team;  
 RT "Analysis of the mouse transcriptome based on functional annotation of  
 60,770 full-length cDNAs.";  
 RL Nature 420:563-573(2002).  
 RL EMBL; AK081019; BAC38117.1; -.  
 DR MGD; MGI:2444166; C730016P09RIK.  
 DR GO; GO:0005576; C:extracellular; IEA.

DR GO; GO:0005179; F:hormone activity; IEA.  
 DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULIN.  
 DR SMART; SM00078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 DR CHAIN 153 AA; 17093 MW; 967596AECACCA387 CRC64;  
 SQ  
 Query Match 74.7%; Score 447; DB 11; Length 153;  
 Best Local Similarity 94.2%; Pred. No. 1.2e-45;  
 Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;  
 QY 1 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIIVDECCFRSCDLRLRLMY 60  
 DB 49 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIIVDECCFRSCDLRLRLMY 108  
 QY 61 CAPLPAKARSVRAPQRTDMPKTK 86  
 DB 109 CAPLPAKARSVRAPQRTDMPKTK 134  
 RESULT 9  
 ID 093380 PRELIMINARY; PRT; 153 AA.  
 AC 093380;  
 DT 01-NOV-1998 (TREMBlrel. 08, Created)  
 DT 01-NOV-1998 (TREMBlrel. 08, Last sequence update)  
 DT 01-JUN-2003 (TREMBlrel. 24, Last annotation update)  
 DE Insulin-like growth factor-I precursor.  
 GN IGF1.  
 OS Melagris gallopavo (Common turkey).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Meleagrids.  
 OX NCBI\_TaxID=9103;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Big 6 M. Tom; TISSUE=Liver;  
 RA Czerwinski S.M., Ashwell C.M., McNulty J.P.;  
 RT "Cloning of turkey insulin-like growth factor-I (IGF-I).";  
 RL Submitted (JUN-1998) to the EMBL/GenBank/DBJ databases.  
 CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
 DR EMBL; AF074980; AAC26006.1; -.  
 DR HSSP; P01343; 2GFI.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005179; F:hormone activity; IEA.  
 DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULIN.  
 DR SMART; SM00078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 DR CHAIN 49  
 FT SIGNAL 48  
 FT CHAIN 118  
 SQ SEQUENCE 153 AA; 17295 MW; 5AF15B8D13C70B5 CRC64;  
 Query Match 70.6%; Score 422; DB 13; Length 153;  
 Best Local Similarity 89.5%; Pred. No. 1.2e-42;  
 Matches 77; Conservative 3; Mismatches 6; Indels 0; Gaps 0;  
 QY 1 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIIVDECCFRSCDLRLRLMY 60  
 DB 49 GPEITCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIIVDECCFRSCDLRLRLMY 108  
 QY 61 CAPLPAKARSVRAPQRTDMPKTK 86  
 DB 109 CAPLPAKARSVRAPQRTDMPKTK 134  
 RESULT 10  
 ID 091230

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ID Q91230 PRELIMINARY; PRT; 161 AA.
AC Q91230;
DT 01-NOV-1996 (TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)
DE Insulin-like growth factor-I.
GN IGF-1.
OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_Taxid=74940;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Big Qualicum River; TISSUE=Liver;
RX MEDLINE=93247592; Pubmed=7683374;
RA Wallis A.E., Devlin R.H.;
RT "Duplicate insulin-like growth factor-I genes in salmon display
RT alternative splicing pathways."
RL Mol. Endocrinol. 7:409-422(1993).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=Big Qualicum River; TISSUE=Liver;
RA Devlin R.H.;
RL Submitted (OCT-1994) to the EMBL/GenBank/DBJ databases.
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U15961; AAA67267.1; -.
DR PIR; C54270; C54270.
DR HSSP; P01343; 2GFI.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004823; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
SQ SEQUENCE 161 AA; 17763 MW; A5A5D2137BF67 CRC64;

Query Match 67.5%; Score 403.5; DB 13; Length 161;
Best Local Similarity 72.0%; Pred. No. 2.1e-40;
Matches 77; Conservative 12; Mismatches 15; Indels 3; Gaps 2;

QY 1 GPEITLCAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTIVDECCFSCDILRLMY 60
DB 45 GPEITLCAELVDLTQFVCGDRGFYFNKPTGYGSSSRSHNRGIVDECCFSCDILRLMY 104
QY 61 CAPLPKAKSARSVRAQHTDMPKTKQKQPSSTNKMT--KSORRKSGT 105
DB 105 CAPVKSGLKARSVRAQHTDMPKTPK-KPLSGNSHTSCKEVHOKNS 150

RESULT 11
ID Q91475 PRELIMINARY; PRT; 145 AA.
AC Q91475;
DT 01-NOV-1996 (TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)
DE Insulin-like growth factor I precursor (Fragment).
OS Salmo salar (Atlantic salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
OX NCBI_Taxid=8030;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=93024477; Pubmed=1406698;
RA Duguay S.J., Park L.K., Samadpour M., Dickhoff W.W.;
RT "Nucleotide sequence and tissue distribution of three insulin-like
RT growth factor I prohormones in salmon.";

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RL Mol. Endocrinol. 6:1202-1210(1992).
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M81904; AAA18211.1; -.
DR HSSP; P01343; 2GFI.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004823; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KM Signal
FT NON TER 1
FT SIGNAL 18
FT CHAIN 19
FT NON TER 145
FT CHAIN 145
SQ SEQUENCE 145 AA; 15885 MW; 3D94EDF477268FC4 CRC64;

Query Match 67.1%; Score 401; DB 13; Length 145;
Best Local Similarity 72.3%; Pred. No. 3.8e-40;
Matches 73; Conservative 11; Mismatches 17; Indels 0; Gaps 0;

QY 1 GPEITLCAELVDALQFVCGDRGFYFNKPTGYGSSSRAPQGTIVDECCFSCDILRLMY 60
DB 19 GPEITLCAELVDLTQFVCGDRGFYFNKPTGYGSSSRSHNRGIVDECCFSCDILRLMY 78
QY 61 CAPLPKAKSARSVRAQHTDMPKTKQKQPSSTNKMTSCQR 101
DB 79 CAPVKSGLKARSVRAQHTDMPKTPKYSTAVQVNDGRTERR 119

RESULT 12
ID Q91162 PRELIMINARY; PRT; 155 AA.
AC Q91162;
DT 01-NOV-1996 (TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-JUN-2003 (TREMBLrel. 24, Last annotation update)
DE Insulin-like growth factor I precursor (Fragment).
OS Oncorhynchus kisutch (Coho salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_Taxid=8019;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=90190659; Pubmed=2628735;
RA Cao Q.P., Duguay S.J., Pilsetskaya E., Steiner D.F., Chan S.J.;
RT "Nucleotide sequence and growth hormone regulated expression of salmon
RT insulin-like growth factor I mRNA.";
RL Mol. Endocrinol. 3:2005-2010(1989).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=93024477; Pubmed=1406698;
RA Duguay S.J., Park L.K., Samadpour M., Dickhoff W.W.;
RT "Nucleotide sequence and tissue distribution of three insulin-like
RT growth factor I prohormones in salmon.";
RL Mol. Endocrinol. 6:1202-1210(1992).
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M81913; AAA49413.1; -.
DR PIR; C44012; C44012.
DR HSSP; P01343; 2GFI.
DR GO; GO:0005576; C:extracellular; IEA.
DR GO; GO:0005179; F:hormone activity; IEA.
DR GO; GO:0007582; P:physiological processes; IEA.
DR InterPro; IPR004823; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.

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DR SMART; SM00078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 KW Signal.  
 FT NON\_TER 1 1  
 FT SIGNAL <1 18 POTENTIAL.  
 FT CHAIN 19 >88 INSULIN-LIKE GROWTH FACTOR I.  
 FT COMELECT 73 73 R -> X (IN REF. 1).  
 FT NON\_TER 155 155  
 SQ SEQUENCE 155 AA; 16968 MW; 022FDD3CA39CA3160 CRC64;  
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 Best Local Similarity 72.3%; Pred. No. 4.1e-40;  
 Matches 73; Conservative 11; Mismatches 17; Indels 0; Gaps 0;  
 QY 1 GPEITLGAELVDALQFVCGDRGFYFNKPTGYSSSRAPQGTGYDECCFSCDLRLRLEY 60  
 DB 19 GPEITLGAELVDLTQFVCGERGFYFSKPTGYGSSSRSHNRGIVDECCFSCDLRLRLEY 78  
 QY 61 CAPLKPAKARSVRAQRHTDMPKTKYQPPSTNNKTSQRR 101  
 DB 79 CAPVSKGAARSVRAQRHTDMPRTPKYSTAVQNVDRGTERR 119  
 RESULT 13  
 ID P81268 PRELIMINARY; PRT; 188 AA.  
 AC P81268;  
 DT 01-AUG-1998 (TrEMBLrel. 07, Created)  
 DT 01-AUG-1998 (TrEMBLrel. 07, Last sequence update)  
 DT 01-JUN-2003 (TrEMBLrel. 24, Last annotation update)  
 DE Insulin-like growth factor I precursor.  
 GN IGF-I.1.  
 OS Oncorhynchus keta (Chum salmon).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;  
 OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.  
 OC NCBI\_TaxID=8018;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA Kavanan V.M., Koval A.P., Grebenjuk V.A., Chan S.J., Steiner D.F.,  
 RA Roberts C.T.Jr., Leroith D., Koval A.P., Skorokhod A.S.,  
 RA "Structure of the Chum Salmon Insulin-Like Growth Factor I Gene";  
 RL DNA Cell Biol. 11:729-737(1993).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RA Kavanan V.M., Grebenjuk V.A., Koval A.P., Skorokhod A.S.,  
 RA Roberts C.T.Jr., Leroith D., Koval A.P., Skorokhod A.S.,  
 RA "Isolation of a second nonallelic insulin-like growth factor I gene  
 from the salmon genome.";  
 RL DNA Cell Biol. 13:555-559(1994).  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RA MEDLINE=95032736;  
 RA Koval A., Kulik V., Duguay S., Plisetskaya E., Adamo M.L.,  
 RA Roberts C.T.Jr., Leroith D., Kavanan V.,  
 RA "Characterization of a salmon insulin-like growth factor I promoter";  
 RL DNA Cell Biol. 13:1057-1062(1994).  
 RN [4]  
 RP SEQUENCE FROM N.A.  
 RA Grebenjuk V.A., Skorokhod A.S., Anoprienko O.V., Koval A.P.;  
 RA Submitted (May-1998) to the EMBL/Genbank/DBD databases.  
 CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
 DR EMBL; AF063216; AAC18833.1; -.  
 DR HSSP; P01343; 2GFI.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005179; P:hormone activity; IEA.  
 DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IIGF; 1.

DR PROSITE; PS00262; INSULIN; 1.  
 SQ SEQUENCE 188 AA; 20792 MW; F4CEBD05E0F24B8 CRC64;  
 Query Match 67.1%; Score 401; DB 13; Length 188;  
 Best Local Similarity 72.3%; Pred. No. 5e-40;  
 Matches 73; Conservative 11; Mismatches 17; Indels 0; Gaps 0;  
 QY 1 GPEITLGAELVDALQFVCGDRGFYFNKPTGYSSSRAPQGTGYDECCFSCDLRLRLEY 60  
 DB 45 GPEITLGAELVDLTQFVCGERGFYFSKPTGYGSSSRSHNRGIVDECCFSCDLRLRLEY 104  
 QY 61 CAPLKPAKARSVRAQRHTDMPKTKYQPPSTNNKTSQRR 101  
 DB 105 CAPVSKGAARSVRAQRHTDMPRTPKYSTAVQNVDRGTERR 145  
 RESULT 14  
 ID Q91965 PRELIMINARY; PRT; 188 AA.  
 AC Q91965;  
 DT 01-NOV-1996 (TrEMBLrel. 01, Created)  
 DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)  
 DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)  
 DE Insulin-like growth factor-I.  
 GN IGF-I.  
 OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;  
 OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.  
 OC NCBI\_TaxID=7940;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA TISSUE=Liver;  
 RC MEDLINE=93247592; PubMed=7683374;  
 RA Wallis A.E., Devlin R.H.;  
 RA "Duplicate insulin-like growth factor-I genes in salmon display  
 alternative splicing pathways";  
 RT Mol. Endocrinol. 7:409-422(1993).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RA TISSUE=Liver;  
 RC Devlin R.H.;  
 RA Submitted (OCT-1994) to the EMBL/Genbank/DBD databases.  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RA TISSUE=Liver;  
 RC Devlin R.H.;  
 RA Submitted (SEP-1994) to the EMBL/Genbank/DBD databases.  
 CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
 DR EMBL; U15960; AAA67266.1; -.  
 DR EMBL; U14536; AAA67263.1; -.  
 DR PIR; B54270; A54270.  
 DR PIR; B54270; B54270.  
 DR HSSP; P01343; 2GFI.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005179; P:hormone activity; IEA.  
 DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 SQ SEQUENCE 188 AA; 20782 MW; F4D705BA811024B8 CRC64;  
 Query Match 67.1%; Score 401; DB 13; Length 188;  
 Best Local Similarity 72.3%; Pred. No. 5e-40;  
 Matches 73; Conservative 11; Mismatches 17; Indels 0; Gaps 0;  
 QY 1 GPEITLGAELVDALQFVCGDRGFYFNKPTGYSSSRAPQGTGYDECCFSCDLRLRLEY 60  
 DB 45 GPEITLGAELVDLTQFVCGERGFYFSKPTGYGSSSRSHNRGIVDECCFSCDLRLRLEY 104

QY 61 CAPLKPAKASRYRAQHTDMPKTYQPPSTNKTKSQRR 101  
 DB 105 CAPVKSCKAARSYRAQHTDMPKTYSTAVQNVDRGTER 145

## RESULT 15

Q9IB10 PRELIMINARY; PRT; 178 AA.  
 ID Q9IB10;  
 AC Q9IB10;  
 DT 01-OCT-2000 (TrEMBLrel. 15, Created)  
 DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)  
 DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)  
 DE Insulin-like growth factor I subtype Ia2.  
 GN IGF-1EA2 OR IGF-I.  
 OS Cyprinus carpio (Common carp).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;  
 OC Cyprinidae; Cyprinus.  
 OX NCBI\_Taxid=7962;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Liver;  
 RX MEDLINE=96241923; PubMed=8680527;  
 RA Liang Y.H., Cheng C.H., Chan K.M.;  
 RT "Insulin-like growth factor Iea2 is the predominantly expressed form  
 of IGF in common carp (Cyprinus carpio)."  
 RL Mol. Mar. Biol. Biotechnol. 5:145-152(1996).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RA Vong Q.P., Chan K.M., Cheng C.H.K.;  
 RT "Common carp insulin-like growth factor-I gene: Genomic organization  
 and functional characterization of the 5'-flanking region."  
 RL Submitted (JAN-2002) to the EMBL/GenBank/DBJ databases.  
 CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).  
 CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.  
 DR EMBL; S82374; AAB37702.2; -.  
 DR EMBL; AF465830; AAF78926.1; -.  
 DR HSSP; P01343; 2GFI.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005179; F:hormone activity; IEA.  
 DR GO; GO:0007582; P:physiological processes; IEA.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULIN.  
 DR SMART; SM00078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 SQ SEQUENCE 178 AA; 19687 MW; 7075A34FF379C459 CRC64;

Query Match 66.8%; Score 399.5; DB 13; length 178;

Best local similarity 69.8%; Pred. No. 7.2e-40;

Matches 74; Conservative 13; Mismatches 18; Indels 1; Gaps 1;  
 QY 1 GPETLGGAEIVDALQFVCGRGFYFNKPTGYSSSRAPQTVGVDECCFRSCDLRLKMY 60  
 DB 62 GPETLGGAEIVDTLQFVCGRGFYFSKPTGYGSSSRSHRGIVDECCFCQSCDLRLKMY 121

QY 61 CAPLKPAKASRYRAQHTDMPKTYQPPSTNKTKSQRRKST 105  
 DB 122 CAPVKSCKAARSYRAQHTDMPKTYSTAVQNVDRGTER 145

Search completed: March 3, 2004, 07:55:28  
 Job time : 36.1325 secs

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: March 3, 2004, 07:50:54 ; Search time 7.95181 Seconds  
(without alignments)  
720.304 Million cell updates/sec

Title: US-09-852-261-2

Sequence: 1 GPEITGALVDAIAGVCGD.....STNKTKGRKRGSTFEHKK 110

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 141681 seqs, 52070155 residues  
Total number of hits satisfying chosen parameters: 141681

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database: SwissProt\_42.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	572.5	95.7	143	1	IGF1_RABIT
2	560	93.6	195	1	IGF1_HUMAN
3	521.5	87.2	133	1	IGFB_MOUSE
4	494	82.6	181	1	IGFB_RAT
5	468	78.3	130	1	IGF1_CAVPO
6	468	78.3	153	1	IGF1_HUMAN
7	464.5	77.7	153	1	IGF1_PIG
8	463	77.4	122	1	IGF1_CANPA
9	463	77.4	154	1	IGF1_BOVIN
10	459	76.8	154	1	IGF1_CAPIH
11	455	76.1	154	1	IGF1_SHEEP
12	450	75.3	153	1	IGF1_RAT
13	447	74.7	127	1	IGF1_MOUSE
14	422	70.6	124	1	IGF1_COTJA
15	422	70.6	153	1	IGF1_CHICK
16	419.5	70.2	153	1	IGF1_XENLA
17	414	69.2	81	1	IGF1_SUNMU
18	403	67.4	122	1	IGF1_HORSE
19	401	67.1	176	1	IGF1_ONCKI
20	399.5	66.8	161	1	IGF3_CYPCA
21	398	66.6	176	1	IGF1_ONCMY
22	393.5	65.8	161	1	IGF1_CYPCA
23	264.5	44.2	214	1	IGF2_ONCMY
24	241	40.3	179	1	IGF2_SHEEP
25	235	39.3	155	1	IGF2_BOVIN
26	233	39.0	180	1	IGF2_MOUSE
27	233	38.9	180	1	IGF2_MUSVI
28	231	38.6	180	1	IGF2_HUMAN
29	229.5	38.4	180	1	IGF2_RAT
30	229	38.3	181	1	IGF2_HORSE
31	228	38.1	181	1	IGF2_PIG
32	228	38.1	181	1	IGF2_PIG
33	222	37.1	66	1	IGF2_CHICK

## ALIGNMENTS

RESULT 1	IGF1_RABIT	STANDARD	PRT	143 AA
AC	095222; 018846;			
DT	01-NOV-1997 (Rel. 35, Created)			
DT	16-OCT-2001 (Rel. 40, Last sequence update)			
DT	10-OCT-2003 (Rel. 42, Last annotation update)			
DE	Insulin-like growth factor I precursor (IGF-I) (Somatomedin).			
GN	IGF1 OR IGF-1.			
OS	Oryctolagus cuniculus (Rabbit).			
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.			
OX	NCBI_TaxID=9986;			
RN	[1]			
RP	SEQUENCE FROM N.A. (ISOFORM IGF-1A).			
RC	STRAIN=ZIKR;			
RA	Flekna G.; Brem G.; Mueller M.;			
RU	Submitted (NOV-1996) to the EMBL/GenBank/DBJ databases.			
RN	[2]			
RP	SEQUENCE FROM N.A. (ISOFORM IGF-1B).			
RC	STRAIN=ZIKR; TISSUE=Liver;			
RA	Flekna G.; Brem G.; Mueller M.;			
RU	Submitted (SEP-1997) to the EMBL/GenBank/DBJ databases.			
CC	- FUNCTION: The insulin-like growth factors, isolated from plasma, are structurally and functionally related to insulin but have a much higher growth-promoting activity.			
CC	- SUBCELLULAR LOCATION: Secreted.			
CC	- ALTERNATIVE PRODUCTS:			
CC	Name=IGF-1B;			
CC	Isoid=Q95222-1; Sequence=Displayed;			
CC	Name=IGF-1A;			
CC	Isoid=Q95222-2; Sequence=VSP_002705;			
CC	- SIMILARITY: Belongs to the insulin family.			
CC	-----			
CC	This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <a href="http://www.isb-sib.ch/announce/">http://www.isb-sib.ch/announce/</a> or send an email to <a href="mailto:license@isb-sib.ch">license@isb-sib.ch</a> ).			
CC	-----			
DR	EMBL; U75390; AAB48032.1; -			
DR	EMBL; AF032961; AAB80950.1; -			
DR	HSSP; P01343; IGF1			
DR	InterPro; IPR004825; Ins/IGF/relax.			
DR	Pfam; PF00049; Insulin; 1.			
DR	PRINTS; PR00277; INSULINB.			
DR	SMART; SM00078; IIGF; 1.			
DR	PROSITE; PS00262; INSULIN; 1.			
KW	Insulin family; Growth factor; Plasma; Signal; Alternative splicing.			
FT	CHAIN	1	32	POTENTIAL.
FT	PROPEP	33	102	INSULIN-LIKE GROWTH FACTOR I.
FT	CHARGE	103	143	E PEPTIDE.
FT	DOMAIN	33	61	B.

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FT DOMAIN 62 73 C.
FT DOMAIN 74 94 A.
FT DOMAIN 95 102 D.
FT DISULFID 38 80 BY SIMILARITY.
FT DISULFID 50 93 BY SIMILARITY.
FT DISULFID 79 84 BY SIMILARITY.
FT VARSPLIC 119 143 YOPSTNKKMSQRRKSGSTFEHK -> EVHLNTERGSA
FT GKNKRYM (in isoform IGF-1A).
FT /FTid=VSP_002705.
SQ SEQUENCE 143 AA; 16091 MW; 819AF577600A1B1A CRC64;

Query Match 95.7%; Score 572.5; DB 1; Length 143;
Best Local Similarity 96.4%; Pred. No. 2,1e-54;
Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

QY 1 GPEITCGALVDALQFVGGDFYFNKPTGYGSSRRAPDQGIYDECCRSQDRPLEMY 60
DB 33 GPEITCGALVDALQFVGGDFYFNKPTGYGSSRRAPDQGIYDECCRSQDRPLEMY 92
QY 61 CAPLPKAKSANSVRAQRHTDMPKTKQYQPPSTNNKTKSQ-RRKSGSTFEHK 110
DB 93 CAPLPKAKSANSVRAQRHTDMPKTKQYQPPSTNNKTKSQRRKSGSTFEHK 143

RESULT 2
IGFB_HUMAN STANDARD; PRT; 195 AA.
ID IGFB_HUMAN
AC P05019;
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C).
GN IGF1 OR IBP1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
OX NCBI_Taxid=9606;
RN (1)
RP MEDLINE=86168194; PubMed=2937782;
RA Rotwein P.; Pollock K.M.; Didler D.K.; Krivi G.G.;
RT "Organization and sequence of the human insulin-like growth factor I
RT gene. Alternative RNA processing produces two insulin-like growth
RT factor I precursor peptides.";
RL J. Biol. Chem. 261:4828-4832 (1986).
RN (2)
RP SEQUENCE FROM N.A.
RP MEDLINE=86094355; PubMed=3455760;
RA Rotwein P.;
RT "Two insulin-like growth factor I messenger RNAs are expressed in
RT human liver.";
RL Proc. Natl. Acad. Sci. U.S.A. 83:77-81 (1986).
RN (3)
RP SEQUENCE FROM N.A.
RP MEDLINE=86108862; PubMed=3002851;
RA de Pagter-Holthuisen P.; van Schaik F.M.A.; Verdulijn G.M.;
RA van Ommen G.J.B.; Bouma B.N.; Jansen M.; Susenbach J.S.;
RT "Organization of the human genes for insulin-like growth factors I
RT and II.";
RL FEBS Lett. 195:179-184 (1986).
RN (4)
RP SEQUENCE OF 22-50 FROM N.A.
RP MEDLINE=84295593; PubMed=6382022;
RA Dull T.J.; Gray A.; Hayelick J.S.; Ullrich A.;
RT "Insulin-like growth factor II precursor gene organization in
RT relation to insulin gene family.";
RL Nature 310:777-781 (1984).
RN (5)
RP SEQUENCE OF 49-118.
RP MEDLINE=78130171; PubMed=632300;
RA Rindernecht E.; Humbel R.E.;
RT "The amino acid sequence of human insulin-like growth factor I and
RT its structural homology with proinsulin.";
```



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DR EMBL: X03420: CAA27152.1; -
DR EMBL: X03421: CAA27153.1; -
DR EMBL: X03422: CAA27154.1; -
DR PIR: A01611; IGHUB.
DR PDB: 1GF1; 15-OCT-94.
DR PDB: 2GF1; 15-APR-93.
DR PDB: 3GF1; 15-APR-93.
DR PDB: 1BCT; 16-MAY-99.
DR Genew: HGNC:5464; IGF1.
DR MIM: 147440; -.
DR MIM: 265850; -.
DR GO: GO:0005159; F:insulin-like growth factor receptor binding; TAS.
DR GO: GO:0005180; F:peptide hormone; TAS.
DR GO: GO:0006928; P:cell motility; TAS.
DR GO: GO:0006260; P:DNA replication; TAS.
DR GO: GO:0009441; P:glycolate metabolism; TAS.
DR GO: GO:0007517; P:muscle development; TAS.
DR GO: GO:0008284; P:positive regulation of cell proliferation; TAS.
DR GO: GO:0007265; P:RAS protein signal transduction; TAS.
DR GO: GO:0007165; P:skeletal development; TAS.
DR GO: GO:0001501; P:skeletal development; TAS.
DR InterPro: IPR004825; Ins/IGF/relax.
DR Pfam: PF00049; Insulin; 1.
DR PRINTS: PR00277; INSULINB.
DR SMART: SM00078; IIGF; 1.
DR PROSITE: PS00262; INSULIN; 1.
KW Insulin family; Growth factor; 3D-structure; Plasma;
KW Alternative splicing; signal; Polymorphism.
FT SIGNAL 1 21
FT PROPEP 22 48
FT CHAIN 49 118
FT DOMAIN 49 77
FT DOMAIN 78 89
FT DOMAIN 90 110
FT DOMAIN 111 118
FT PROPEP 119 195
FT DISULFID 34 96
FT DISULFID 66 109
FT DISULFID 95 100
FT VARIANT 187 187
FT STRAND 51 51
FT TURN 55 55
FT HELIX 56 69
FT TURN 87 88
FT HELIX 91 95
FT TURN 96 97
FT STRAND 99 99
FT HELIX 106 109
SQ SEQUENCE 195 AA; 21841 MW; E88A8CFBD1CD1873 CRC64;
Query Match 93.6%; Score 560; DB 1; Length 195;
Best Local Similarity 100.0%; Pred. No. 6,3e-53;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 GPEITCGAEIVDALQFGQDGRGVFNKPTGYGSSRRAPQTVYDCCRRSCDRLRELV 60
DB 49 GPEITCGAEIVDALQFGQDGRGVFNKPTGYGSSRRAPQTVYDCCRRSCDRLRELV 108
QY 61 CAPLPKPAKSARSVRAQHTDMPKTKQKQPPSTNKNTKSGQRKG 103
DB 109 CAPLPKPAKSARSVRAQHTDMPKTKQKQPPSTNKNTKSGQRKG 151
RESULT 3
ID IGF_MOUSE STANDARD; PRT; 133 AA.
AC POS018;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 15-MAR-2004 (Rel. 43, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
IGF1 OR IGF-1.

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OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=87040760; PubMed=3774549;
RA Bell G.I., Stempfen M.M., Fong N.M., Rall L.B.;
RT "Sequences of liver cDNAs encoding two different mouse insulin-like
RT growth factor I precursors."
RL Nucleic Acids Res. 14:7873-7882(1986).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=FVB/N; TISSUE=Liver;
RX MEDLINE=22386257; PubMed=12477932;
RA Strussberg R.L., Reingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Datchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Uedlin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Adamson R.D., Mullany S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Morley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalón D.K., Mizny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Kettelman M., Madan A., Rodriguez S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butlerfield Y.S.N., Krzyzanski M.I., Skalska U., Smalins D.E.,
RA Scherch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length
RT human and mouse cDNA sequences."
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
CC -!- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC are structurally and functionally related to insulin but have a
CC much higher growth-promoting activity.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=2;
CC Name=IGF-IB;
CC IsoId=POS018-1; Sequence=Displayed;
CC Name=IGF-IA;
CC IsoId=POS017-1; Sequence=External;
CC -!- SIMILARITY: Belongs to the insulin family.
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CC -----
DR EMBL: X04482: CAA28170.1; -
DR EMBL: BC012409; AAH12409.1; -
DR HSSP: P01343; IGF1.
DR MGD: MGI:96432; IGF1.
DR GO: GO:0010001; P:glial cell differentiation; IMP.
DR GO: GO:0007399; P:neurogenesis; IMP.
DR InterPro: IPR004825; Ins/IGF/relax.
DR Pfam: PF00049; Insulin; 1.
DR PRINTS: PR00277; INSULINB.
DR SMART: SM00078; IIGF; 1.
DR PROSITE: PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Alternative splicing; signal.
FT SIGNAL 1 22
FT CHAIN 23 92
FT DOMAIN 23 51
FT DOMAIN 52 63
FT DOMAIN 64 84
A.

```

```

FT DOMAIN 85 92 D. PEPTIDE.
FT PROPEP 93 133 E. SIMILARITY.
FT DISULFID 28 70 BY SIMILARITY.
FT DISULFID 40 83 BY SIMILARITY.
FT DISULFID 69 74 BY SIMILARITY.
SQ SEQUENCE 133 AA; 14915 MW; 88550588862502 CRC64;

Query Match 87.2%; Score 521.5; DB 1; Length 133;
Best Local Similarity 89.2%; Pred. No. 5.5e-45;
Matches 99; Conservative 2; Mismatches 9; Indels 1; Gaps 1;

OY 1 GPEITLCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLRLMY 60
DB 23 GPEITLCAELVDALQFVCGDRGFYFNKPTGYGSSIRRAPQGTIVDECCFRSCDLRLRLMY 82
OY 61 CAPLKPAKARSVPARQRTDMPKTKQYQPPSTNNTKTSQ-RRKSTFEERK 110
DB 83 CAPLKPAKARSVPARQRTDMPKTKQSPSLSTNKKTKLQRRKSGSTFEERK 133

RESULT 4
IGF1_RAT STANDARD; PRT; 181 AA.
ID IGF1_RAT
AC P08024;
DT 01-AUG-1988 (Rel. 08, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
GN IGF1 OR IGF-1.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=8722423; PubMed=3034909;
RA Shimatsu A., Rotwein P.;
RT "Mosaic evolution of the insulin-like growth factors. Organization,
RT sequence, and expression of the rat insulin-like growth factor I
RT gene."
RL J. Biol. Chem. 262:7894-7900(1987).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=88015572; PubMed=3658684;
RA Shimatsu A., Rotwein P.;
RT "Sequence of two rat insulin-like growth factor I mRNAs differing
RT within the 5' untranslated region."
RL Nucleic Acids Res. 15:7196-7196(1987).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=8912759; PubMed=3221878;
RA Roberts C.T., Leaky S.R., Lowe W.L., Seaman W.T., Jeroilth D.;
RT "Structure of the rat insulin-like growth factor II transcriptional
RT unit: heterogeneous transcripts are generated from two promoters by
RT use of multiple polyadenylation sites and differential ribonucleic
RT acid splicing."
RL Mol. Endocrinol. 2:1115-1126(1988).
RN [4]
RP SEQUENCE OF 49-118.
RX MEDLINE=89174609; PubMed=2538424;
RA Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
RA Nakamura S., Niwa M., Zapf J.;
RT "Primary structure of rat insulin-like growth factor-I and its
RT biological activities."
RL J. Biol. Chem. 264:5616-5621(1989).
CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC are structurally and functionally related to insulin but have a
CC much higher growth-promoting activity.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=2;
CC Name=IGF-1B;
CC IsoId=P08024-1; Sequence=Displayed;

```

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CC Name=IGF-1A;
CC IsoId=P08025-1; Sequence=External;
CC -1- SIMILARITY: Belongs to the insulin family.
CC -----
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CC -----
DR EMBL; M15650; AAA41214.1; -
DR EMBL; M15647; AAA41214.1; JOINED.
DR EMBL; M15648; AAA41214.1; JOINED.
DR EMBL; M15649; AAA41214.1; JOINED.
DR EMBL; X06107; CAA29480.1; ALT_SEQ.
DR EMBL; M15480; AAA41385.1; ALT_SEQ.
DR PIR; A27804; A27804.
DR HSSP; P01343; IGF1.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF000649; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF. 1.
DR PROSITE; PS00262; INSULIN; 1.
KM Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT SIGNAL 1 ?
FT PROPEP 48 ?
FT CHAIN 48 ?
FT DOMAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.
FT DOMAIN 78 89 B.
FT DOMAIN 90 110 C.
FT DOMAIN 111 118 D.
FT PROPEP 119 181 E.
FT DISULFID 54 96 E PEPTIDE.
FT DISULFID 66 108 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
FT CONFICT 110 112 AP1 -> VAC (IN REF. 2).
SQ SEQUENCE 181 AA; 20322 MW; 52BMB431875A1A06 CRC64;

Query Match 82.6%; Score 494; DB 1; Length 181;
Best Local Similarity 84.4%; Pred. No. 6.8e-46;
Matches 92; Conservative 4; Mismatches 13; Indels 0; Gaps 0;

OY 1 GPEITLCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLRLMY 60
DB 49 GPEITLCAELVDALQFVCGDRGFYFNKPTGYGSSIRRAPQGTIVDECCFRSCDLRLRLMY 108
OY 61 CAPLKPAKARSVPARQRTDMPKTKQYQPPSTNNTKTSQ-RRKSTFEERK 109
DB 109 CAPLKPAKARSVPARQRTDMPKTKQSPSLSTNKKTKLQRRKSGSKAH 157

RESULT 5
IGF1_CAVPO STANDARD; PRT; 130 AA.
ID IGF1_CAVPO
AC P17647;
DT 01-AUG-1990 (Rel. 15, Created)
DT 01-AUG-1990 (Rel. 15, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1.
OS Cavia porcellus (Guinea pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
OX NCBI_TaxID=10141;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90332447; PubMed=2377480;
RA Bell G.I., Stempien M.M., Fong N.M., Scino S.;
RT "Sequence of a cDNA encoding guinea pig IGF-I."
RL Nucleic Acids Res. 18:4275-4275(1990).

```

CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
CC are structurally and functionally related to insulin but have a  
CC much higher growth-promoting activity.  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- SIMILARITY: Belongs to the insulin family.  
CC -----  
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CC or send an email to [license@ebi.ac.uk](mailto:license@ebi.ac.uk)).

DR EMBL; X52951; CA37127.1; .  
DR PIR; S12719; IIGP1.  
DR HSSP; P01343; IIGP1.  
DR InterPro; IPR004825; Ins/IGF/relax.  
DR Pfam; PF00049; Insulin; 1.  
DR PRINTS; PR00277; INSULINB.  
DR SMART; SM00078; IIGF; 1.  
DR PROSITE; PS00262; INSULIN; 1.  
KW Insulin family; Growth factor; Plasma; Signal.  
FT SIGNAL 1 25  
FT CHAIN 1 25 INSULIN-LIKE GROWTH FACTOR I.  
FT DOMAIN 26 95 B.  
FT DOMAIN 26 54 C.  
FT DOMAIN 55 66 A.  
FT DOMAIN 67 87 A.  
FT DOMAIN 88 95 D.  
FT PROPEP 96 130 E PEPTIDE.  
FT DISULFID 31 73 BY SIMILARITY.  
FT DISULFID 43 86 BY SIMILARITY.  
FT DISULFID 72 77 BY SIMILARITY.  
SQ SEQUENCE 130 AA; 14342 MW; 251B20AEDC5729FF CRC64;

Query Match 78.3%; Score 468; DB 1; Length 130;  
Best Local Similarity 100.0%; Pred. No. 2.9e-43; Indels 0; Gaps 0;  
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEFLCGALVDALQFVCGDGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDRLRLMY 60  
DB 26 GPEFLCGALVDALQFVCGDGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDRLRLMY 85  
QY 61 CAPLKPASARSVPARQRTDMPKTK 86  
DB 86 CAPLKPASARSVPARQRTDMPKTK 111

RESULT 6  
IGFA\_HUMAN STANDARD; PRT; 153 AA.  
ID IGFA\_HUMAN  
AC P01343;  
DT 21-JUL-1986 (Rel. 01, Created)  
DT 13-AUG-1987 (Rel. 05, Last annotation update)  
DT 10-OCT-2003 (Rel. 42, Last annotation update)  
DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin C).  
GN IGF1 OR IGF1.  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.  
OX NCBI\_TaxID=9606;  
RN 1  
RP SEQUENCE FROM N.A.  
RX MEDLINE=66168194; PubMed=2937782;  
RA Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;  
RT "Organization and sequence of the human insulin-like growth factor I  
RT factor I precursor peptides.";  
RL J. Biol. Chem. 261:4828-4832(1986).  
RN 12  
RP SEQUENCE FROM N.A.  
RX MEDLINE=84068210; PubMed=6358902;  
RA Jansen M., van Schaik F.M.A., Ricker A.T., Bullock B., Woods D.E.,

RA Gabbay K.H., Nussbaum A.L., Sussenbach J.S., van den Brande J.L.;  
RT "Sequence of cDNA encoding human insulin-like growth factor I  
RT precursor.";  
RL Nature 306:609-611(1983).  
RN 13  
RP SEQUENCE FROM N.A.  
RX MEDLINE=6108910; PubMed=2935423;  
RA le Bouc Y., Dreyer D., Jaeger F., Binoux M., Sondermeier P.;  
RT "Complete characterization of the human IGF-I nucleotide sequence  
RT isolated from a newly constructed adult liver cDNA library.";  
RL FEBS Lett. 196:108-112(1986).  
RN 14  
RP SEQUENCE FROM N.A.  
RX MEDLINE=6108862; PubMed=3002851;  
RA de Paepe-Holthuisen P., van Schaik F.M.A., Verdijn G.M.,  
RA van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;  
RT "Organization of the human genes for insulin-like growth factors I  
RT and II.";  
RL FEBS Lett. 195:179-184(1986).  
RN 15  
RP SEQUENCE FROM N.A.  
RX TISSUE=Liver;  
RX MEDLINE=91207342; PubMed=2018498;  
RA Steenbergh P.H., Kooen-Reemst A.M.C.B., Cleutjens C.B.J.M.,  
RA Sussenbach J.S.;  
RT "Complete nucleotide sequence of the high molecular weight human  
RT IGF-I mRNA.";  
RN 16  
RP Biochem. Biophys. Res. Commun. 175:507-514(1991).  
RX TISSUE=Brain;  
RX MEDLINE=92186627; PubMed=1372070;  
RA Sandberg Nordqvist A.C., Stahlbom P.A., Lake M., Sara V.R.;  
RT "Characterization of two cDNAs encoding insulin-like growth factor 1  
RT (IGF-1) in the human fetal brain.";  
RN 17  
RP Brain Res. Mol. Brain Res. 12:275-277(1992).  
RX SEQUENCE OF 24-50 AND 119-153 FROM N.A.  
RX MEDLINE=84285593; PubMed=6382022;  
RA Dull T.J., Gray A., Hayflick J.S., Ullrich A.;  
RT "Insulin-like growth factor II precursor gene organization in  
RT relation to insulin gene family.";  
RN 18  
RP Nature 310:777-781(1984).  
RX SEQUENCE OF 49-118.  
RX MEDLINE=78130171; PubMed=632300;  
RA Rinderknecht E., Humbel R.E.;  
RT "The amino acid sequence of human insulin-like growth factor I and  
RT its structural homology with proinsulin.";  
RN 19  
RP J. Biol. Chem. 253:2769-2776(1978).  
RX 3D-STRUCTURE MODELING;  
RX MEDLINE=83210259; PubMed=6189745;  
RA Bunderli T.L., Bedarkar S., Humbel R.E.;  
RT "Tertiary structures, receptor binding, and antigenicity of  
RT insulinlike growth factors.";  
RN 20  
RP Red. Proc. 42:2592-2597(1983).  
RX STRUCTURE BY NMR.  
RX MEDLINE=91242464; PubMed=2036417;  
RA Cooke R.M., Harvey T.S., Campbell I.D.;  
RT "Solution structure of human insulin-like growth factor I: a nuclear  
RT magnetic resonance and restrained molecular dynamics study.";  
RN 21  
RP Biochemistry 30:5484-5491(1991).  
RX STRUCTURE BY NMR.  
RX MEDLINE=92316903; PubMed=1319992;  
RA Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,  
RA Yasuda T., Kobayashi Y.;  
RT "1H-NMR assignment and secondary structure of human insulin-like  
RT growth factor-I (IGF-I) in solution.";  
RN 22  
RP J. Biochem. 111:529-536(1992).  
RN 112

RP DISULFIDE BONDS.  
 RX MEDLINE=89207850; PubMed=3242681;  
 RA Raschdorf F., Dahinden R., Maerkl W., Richter W.J., Merryweather J.P.,  
 RT "Location of disulphide bonds in human insulin-like growth factors  
 (IGFs) synthesized by recombinant DNA technology.";  
 RT Biomed. Environ. Mass Spectrom. 16:3-8(1988).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 are structurally and functionally related to insulin but have a  
 much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- ALTERNATIVE PRODUCTS:  
 CC Event=Alternative splicing; Named isoforms=2;  
 CC Name=IGF-1A;  
 CC IsoId=P01343-1; Sequence=Displayed;  
 CC Name=IGF-1B;  
 CC IsoId=P05019-1; Sequence=External;  
 CC -1- SIMILARITY: Belongs to the insulin family.  
 CC -----  
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 CC -----  
 DR EMBL; M14156; AA452538.1; -;  
 DR EMBL; M12659; AA452538.1; JOINED.  
 DR EMBL; M14153; AA452538.1; JOINED.  
 DR EMBL; M14154; AA452538.1; JOINED.  
 DR EMBL; X00173; CAA24998.1; -;  
 DR EMBL; X03563; CAA27250.1; ALT\_SEQ.  
 DR EMBL; M27544; AA452787.1; -;  
 DR EMBL; X03420; CAA27152.1; -;  
 DR EMBL; X03421; CAA27153.1; -;  
 DR EMBL; X03422; CAA27154.1; -;  
 DR EMBL; X57025; CAA40382.1; -;  
 DR EMBL; X56773; CAA40092.1; -;  
 DR EMBL; X52581; IGHU1.  
 DR PDB; 1GF1; 15-OCT-94.  
 DR PDB; 2GFI; 15-APR-93.  
 DR PDB; 3GFI; 15-APR-93.  
 DR PDB; 1B9G; 13-FEB-99.  
 DR PDB; 1GGR; 02-OCT-02.  
 DR PDB; 1GZY; 02-OCT-02.  
 DR PDB; 1GZ2; 25-JUL-02.  
 DR PDB; 1H02; 25-JUL-02.  
 DR PDB; 1H59; 16-MAY-02.  
 DR PDB; 1IMX; 03-OCT-01.  
 DR Genew; HGNC:5464; IGF1.  
 DR MIM; 147440; -;  
 DR MIM; 265850; -;  
 DR GO; GO:0005159; F:insulin-like growth factor receptor binding; TAS.  
 DR GO; GO:0005180; F:peptide hormone; TAS.  
 DR GO; GO:0006928; P:cell motility; TAS.  
 DR GO; GO:0006260; P:DNA replication; TAS.  
 DR GO; GO:0009441; P:glycolate metabolism; TAS.  
 DR GO; GO:0007517; P:muscle development; TAS.  
 DR GO; GO:0008284; P:positive regulation of cell proliferation; TAS.  
 DR GO; GO:0007265; P:RAS protein signal transduction; TAS.  
 DR GO; GO:0007165; P:signal transduction; TAS.  
 DR GO; GO:0001501; P:skeletal development; TAS.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; INSULINB.  
 DR SMART; SM00078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 KM Insulin family; Growth factor; Plasma; 3D-structure;  
 KW Alternative splicing; Signal.  
 FT SIGNAL 1 21 POTENTIAL.  
 FT PROPEP 22 48  
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR 1A.  
 FT DOMAIN 49 77 B.

FT DOMAIN 78 89 C.  
 FT DOMAIN 90 110 A.  
 FT DOMAIN 111 118 D.  
 FT PROPEP 119 153 E PEPTIDE.  
 FT DISULFID 54 96  
 FT DISULFID 66 109  
 FT DISULFID 95 100  
 FT STRAND 51 51  
 FT TURN 35 35  
 FT TURN 56 69  
 FT TURN 87 88  
 FT HELIX 91 95  
 FT TURN 96 97  
 FT STRAND 99 99  
 FT HELIX 106 109  
 SO SEQUENCE 153 AA; 17026 MW; C6ECD92DCA9B37BC CRC64;  
 Query Match 78.3%; Score 468; DB 1; Length 153;  
 Best Local Similarity 100.0%; Pred. No. 3.4e-43;  
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Oy 1 GPELTCALVELVDLQFVCGDGRGFYFNKPTGSGSSRRARQTGIVDECCFRCDRLRLNY 60  
 Db 49 GPELTCALVELVDLQFVCGDGRGFYFNKPTGSGSSRRARQTGIVDECCFRCDRLRLNY 108  
 Oy 61 CAPLKPASARSYRAQRHTDMPKTOK 86  
 Db 109 CAPLKPASARSYRAQRHTDMPKTOK 134  
 RESULT 7  
 ID IGF1\_PIG STANDARD; PRT; 153 AA.  
 AC P16545;  
 DT 01-AUG-1990 (Rel. 15, Created)  
 DT 01-AUG-1990 (Rel. 15, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).  
 GN IGF1.  
 OS Sus scrofa (Pig).  
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.  
 CX NCBI\_TaxID=9823;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=90221822; PubMed=2326169;  
 RA Mueller M., Brem G.;  
 RT "Nucleotide sequence of porcine insulin-like growth factor. 1:5'  
 RT untranslated region, exons 1 and 2 and mRNA.";  
 RT Nucleic Acids Res. 18:364-364(1990).  
 RN [2]  
 RP SEQUENCE OF 20-153 FROM N.A.  
 RX MEDLINE=89096956; PubMed=3211153;  
 RA Tavakkol A., Simmen F.A., Simmen R.C.M.;  
 RT "Porcine insulin-like growth factor-I (pIGF-I): complementary  
 RT deoxyribonucleic acid cloning and uterine expression of messenger  
 RT ribonucleic acid encoding evolutionarily conserved IGF-I peptides.";  
 RL Mol. Endocrinol. 2:674-681(1988).  
 RN [3]  
 RP SEQUENCE OF 1-21 FROM N.A.  
 RX STRAIN=White Landrace; TISSUE=Liver;  
 RC MEDLINE=9418209; PubMed=8297476;  
 RA Weller P.A., Dickson M.C., Huskisson N.S., Dauncey M.J., Buttery P.J.,  
 RA Gilmour R.S.;  
 RT "The porcine insulin-like growth factor-I gene: characterization and  
 RT expression of alternate transcription sites.";  
 RL J. Mol. Endocrinol. 11:201-211(1993).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 are structurally and functionally related to insulin but have a  
 much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- SIMILARITY: Belongs to the insulin family.  
 CC -----

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DR EMBL: X17492; CA35527.1; -  
DR EMBL: X52388; CA36617.1; -  
DR EMBL: X52077; CA36296.1; -  
DR EMBL: M31173; AAA31043.1; ALT\_INIT.  
DR EMBL: X17638; CA35632.1; -  
DR PIR: S12825; S12825.  
DR HSSP: P01343; IGF1.  
DR InterPro: IPR004825; Ins/IGF/relax.  
DR Pfam: PF00049; Insulin; 1.  
DR PRINTS: PR00277; INSULIN.  
DR SMART: SM00078; IGF; 1.  
DR PROSITE: PS00262; INSULIN; 1.  
KW Insulin family; Growth factor; Plasma; Signal.  
FT SIGNAL 1  
FT PROPEP 1  
FT CHAIN 48  
FT DOMAIN 49  
FT DOMAIN 78  
FT DOMAIN 90  
FT DOMAIN 111  
FT PROPEP 119  
FT DISULFID 54  
FT DISULFID 66  
FT DISULFID 95  
SQ SEQUENCE 153 AA; 17010 MW; 6098792DCDA0CC7D CRC64;

Query Match 77.7%; Score 464.5; DB 1; Length 153;  
Best Local Similarity 87.3%; Pred. No. 8.1e-43;  
Matches 89; Conservative 1; Mismatches 5; Indels 7; Gaps 1;

QY 1 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDRLRLMY 60  
DB 49 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDRLRLMY 108  
QY 61 CAPLKPAKSARSYRAQRHTDMPKTK-----YQPPSTNKN 95  
DB 109 CAPLKPAKSARSYRAQRHTDMPKTK-----YQPPSTNKN 150

## RESULT 8

ID IGF1 CANFA STANDARD; PRT; 122 AA.  
AC P33712;  
DT 01-FEB-1994 (Rel. 28, Created)  
DT 01-FEB-1994 (Rel. 28, Last sequence update)  
DT 10-OCT-2003 (Rel. 42, Last annotation update)  
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin)  
DE (Fragment).  
GN IGF1 OR IGF1A.  
OS Canis familiaris (Dog).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.  
OX NCBI\_TaxID=9615;  
RN [1]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=9336192; PubMed=8359700;  
RA Delacourte P., Lou H., Harrison D.G., Bernstein K.E.;  
RT "Sequence of a cDNA encoding dog insulin-like growth factor I.";  
RL Gene 130:305-306(1993).  
CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
CC are structurally and functionally related to insulin but have a  
CC much higher growth-promoting activity.  
CC -1- SUBCELLULAR LOCATION: Secreted.  
CC -1- SIMILARITY: Belongs to the insulin family.

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DR EMBL: L08254; -; NOT\_ANNOTATED\_CDS.  
DR PIR: P0622; P0622.  
DR HSSP: P01343; IGF1.  
DR InterPro: IPR004825; Ins/IGF/relax.  
DR Pfam: PF00049; Insulin; 1.  
DR PRINTS: PR00277; INSULIN.  
DR SMART: SM00078; IGF; 1.  
DR PROSITE: PS00262; INSULIN; 1.  
KW Insulin family; Growth factor; Plasma; Signal.  
FT SIGNAL 1  
FT NON\_TER 1  
FT CHAIN 1  
FT DOMAIN 20  
FT DOMAIN 49  
FT DOMAIN 61  
FT DOMAIN 82  
FT PROPEP 90  
FT DISULFID 25  
FT DISULFID 37  
FT DISULFID 66  
SQ SEQUENCE 122 AA; 13407 MW; 036A004DC44ED75 CRC64;

Query Match 77.4%; Score 463; DB 1; Length 122;  
Best Local Similarity 98.8%; Pred. No. 9.1e-43;  
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDRLRLMY 60  
DB 20 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDRLRLMY 79  
QY 61 CAPLKPAKSARSYRAQRHTDMPKTK 86  
DB 80 CAPLKPAKSARSYRAQRHTDMPKTK 105

## RESULT 9

ID IGF1 BOVIN STANDARD; PRT; 154 AA.  
AC P07455;  
DT 01-APR-1988 (Rel. 07, Created)  
DT 01-NOV-1991 (Rel. 20, Last sequence update)  
DT 10-OCT-2003 (Rel. 42, Last annotation update)  
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).  
GN IGF1.  
OS Bos taurus (Bovine).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;  
OC Bovidae; Bovinae; Bos.  
OX NCBI\_TaxID=9913;  
RN [1]  
RP SEQUENCE OF 2-154 FROM N.A.  
RX MEDLINE=90175014; PubMed=2308858;  
RA Forsis T., Murphy C., Gannon F.;  
RT "Nucleotide sequence of the bovine insulin-like growth factor 1  
RT (IGF-1) and its IGF-1A precursor.";  
RL Nucleic Acids Res. 18:676-676(1990).  
RN [2]  
RP SEQUENCE OF 50-119 FROM N.A.  
RX MEDLINE=95172127; PubMed=7867698;  
RA Schmidt A., Binspanner R., Amsegruber W., Sinowatz F., Schams D.;  
RT "Expression of insulin-like growth factor 1 (IGF-1) in the bovine  
RT oviduct during the oestrous cycle.";  
RL Exp. Clin. Endocrinol. 102:364-369(1994).  
RN [3]  
RP SEQUENCE OF 50-119.

```

RA MEDLINE=86085881; PubMed3941093;
RX Honegger A., Humbel R.E.;
RT "Insulin-like growth factors I and II in fetal and adult bovine
RT serum. Purification, primary structures, and immunological
RT cross-reactivities".
RL J. Biol. Chem. 261:569-575(1986).
RN (4)
RP SEQUENCE OF 50-119.
RX MEDLINE=88268820; PubMed3390164;
RA Francis G.U., Upton F.M., Ballard F.J., McNeil K.A., Wallace J.C.;
RT "Insulin-like growth factors I and 2 in bovine colostrum. Sequences
RT and biological activities compared with those of a potent truncated
RT form".
RL Biochem. J. 251:95-103(1988).
CC -I- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC are structurally and functionally related to insulin but have a
CC much higher growth-promoting activity.
CC -I- SUBCELLULAR LOCATION: Secreted.
CC -I- SIMILARITY: Belongs to the insulin family.
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CC -----
CC EMBL: X15726; CAA33746.1; -
CC EMBL: S76122; AAD14209.1; -
CC PIR: S12672; IGBO1.
CC DR HSSP: P01343; IGF1.
CC DR InterPro: IPR004825; Ins/IGF/relax.
CC DR Pfam: PF000049; Insulin; 1.
CC DR PRINTS: PR00277; INSULINB.
CC DR SMART: SM00078; IIGF; 1.
CC DR PROSITE: PS00262; INSULIN; 1.
CC KM Insulin family; Growth factor; Plasma; Signal.
CC FT SIGNAL 1 ?
CC FT PROPEP 49
CC FT CHAIN 50 119 INSULIN-LIKE GROWTH FACTOR I.
CC FT DOMAIN 50 78 B.
CC FT DOMAIN 79 90 C.
CC FT DOMAIN 91 111 A.
CC FT DOMAIN 112 119 D.
CC FT PROPEP 120 154 E.PEPTIDE.
CC FT DISULFID 55 97 E SIMILARITY.
CC FT DISULFID 67 110 BY SIMILARITY.
CC FT DISULFID 101 101 BY SIMILARITY.
CC SQ SEQUENCE 154 AA; 17066 MW; 642016AFA3140999 CRC64;
CC -----
Query Match 77.4%; Score 463; DB 1; Length 154;
Best Local Similarity 98.8%; Pred. No. 1.2e-42;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 1 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPDQGIYDECCFRSCDRLREMY 60
DB 50 GPEITCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPDQGIYDECCFRSCDRLREMY 109
QY 61 CAPLKPAKSARSVRAQRITMDPKTKQK 86
DB 110 CAPLKPAKSARSVRAQRITMDPKTKQK 135
RESULT 10
IGF1_CAPHI STANDARD; PRT; 154 AA.
AC PS1457;
DT 01-OCT-1996 (Rel. 34, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 15-MAR-2004 (Rel. 43, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
EN IGF1.

```

```

OS Capra hircus (Goat).
OC Caprioceta; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Capra.
OC NCBI_TaxID=9925;
RN [1]
RP SEQUENCE FROM N.A., AND TISSUE SPECIFICITY.
RC STRAIN=Shiba; TISSUE=Liver;
RC MEDLINE=95290780; PubMed=7772848;
RA Mikawa S., Yoshikawa G.-I., Yamano Y., Sakai H., Komano T., Hosoi Y.,
RA Utsami K.;
RT "Tissue- and development-specific expression of goat insulin-like
RT growth factor-I (IGF-I) mRNAs."
RL Biosci. Biotechnol. Biochem. 59:759-761(1995).
CC -I- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC are structurally and functionally related to insulin but have a
CC much higher growth-promoting activity.
CC -I- SUBCELLULAR LOCATION: Secreted.
CC -I- TISSUE SPECIFICITY: Expressed in all tissues examined: brain,
CC lung, liver, spleen, uterus, ovary, testis, heart and skeletal
CC muscle.
CC
CC -I- SIMILARITY: Belongs to the insulin family.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; D11378; BAA01576.1; -;
DR EMBL; D26119; BAB77524.1; ALT SEQ.
DR EMBL; D26117; BAB77524.1; JOINED.
DR EMBL; D26116; BAB77524.1; JOINED.
DR EMBL; D26118; BAB77524.1; JOINED.
DR PIR; JC2483; JC2483.
DR HSSP; P01343; IGF1.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KM Insulin family; Growth factor; Plasma; Signal.
FT SIGNAL 1 ?
FT PROPEP ? 49 BY SIMILARITY.
FT CHAIN 50 119 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 50 78 B.
FT DOMAIN 79 90 C.
FT DOMAIN 91 111 A.
FT DOMAIN 112 119 D.
FT PROPEP 120 154 E PEPTIDE.
FT DISULFID 55 97 BY SIMILARITY.
FT DISULFID 67 110 BY SIMILARITY.
FT DISULFID 96 101 BY SIMILARITY.
SQ SEQUENCE 154 AA; 17082 MW; 07238BB6AF3068422 CRC64;
Query Match 76.8%; Score 459; DB 1; Length 154;
Best Local Similarity 97.7%; Pred. No. 3.2e-42;
Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 1 GPEITLGCALVDAIOLPYCGSRGFYENKPTGYGSSRRAPAPOTGIYDECCFSSCDLRLEMY 60
DB 50 GPEITLGCALVDAIOLPYCGSRGFYENKPTGYGSSRRAPAPOTGIYDECCFSSCDLRLEMY 109
QY 61 CAPIKPAKSARSVARQHTDMPKTXK 86
DB 110 CAPIKPAKSARSVARQHTDMPKTXK 135
RESULT 11
IGF1_SHEEP
ID IGF1_SHEEP STANDARD; PRT; 154 AA.

```

AC P10763;  
 DT 01-JUL-1989 (Rel. 11, Created)  
 DT 01-FEB-1991 (Rel. 17, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)  
 DE Insulin-like growth factor I precursor (IGF-I) (somatomedin).  
 GN IGF1.  
 OS Ovis aries (Sheep).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;  
 OC Bovidae; Caprinae; Ovis.  
 ON NCBI\_TaxID=9940;  
 RX MEDLINE=90126234; PubMed=2575490;  
 RC MEDLINE=90126234; PubMed=2575490;  
 RA Wong B.A., Ohlsen S.M., Godfredson J.A., Dean D.M., Wheaton J.E.;  
 RT "Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity  
 in the mRNA population.";  
 RL DNA 8:649-657(1989).  
 RN [12]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Liver;  
 RX MEDLINE=91197361; PubMed=2015053;  
 RA Dickson M.C., Saunders J.C., Gilmour R.S.;  
 RT "The ovine insulin-like growth factor-I gene: characterization,  
 expression and identification of a putative promoter.";  
 RL J. Mol. Endocrinol. 6:117-31(1991).  
 RN [13]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Liver;  
 RX MEDLINE=93221682; PubMed=8466647;  
 RA Ohlsen S.M., Dean D.M., Wong E.A.;  
 RT "Characterization of multiple transcription initiation sites of the  
 ovine insulin-like growth factor-I gene and expression profiles of  
 three alternatively spliced transcripts.";  
 RL DNA Cell Biol. 12:243-251(1993).  
 RN [14]  
 RP SEQUENCE OF 55-135 FROM N.A.  
 RC STRAIN=Coopworth; TISSUE=Liver;  
 RX MEDLINE=93250051; PubMed=8485157;  
 RA Demmer J., Hill D.F., Petersen G.B.;  
 RT "Characterization of two sheep insulin-like growth factor II cDNAs  
 with different 5'-untranslated regions.";  
 RL Biochim. Biophys. Acta 1173:79-80(1993).  
 RN [15]  
 RP SEQUENCE OF 50-113.  
 RX MEDLINE=89136887; PubMed=2537174;  
 RA Francis G.L., McNeil K.A., Wallace J.C., Ballard F.J., Owens P.C.;  
 RT "Sheep insulin-like growth factors I and II: sequences, activities  
 and assays.";  
 RL Endocrinology 124:1173-1183(1989).  
 RN [16]  
 RP SEQUENCE OF 50-79.  
 RX MEDLINE=89333215; PubMed=2752053;  
 RA Hey A.W., Browne C.A., Simpson R.J., Thorburn G.D.;  
 RT "Simultaneous isolation of insulin-like growth factors I and II from  
 adult sheep serum.";  
 RL Biochim. Biophys. Acta 997:27-35(1989).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 are structurally and functionally related to insulin but have a  
 much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- ALTERNATIVE PRODUCTS:  
 CC Event=Alternative splicing; Named isoforms=3;  
 CC Name=B;  
 CC IsoId=P10763-1; Sequence=Displayed;  
 CC Name=A;  
 CC IsoId=P10763-2; Sequence=VSP\_002707;  
 CC Name=C;  
 CC IsoId=P10763-3; Sequence=VSP\_002706;  
 CC -1- SIMILARITY: Belongs to the insulin family.  
 CC -----  
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DR EMBL M30653; AAA80532.1; -  
 DR EMBL M30653; AAA80533.1; -  
 DR EMBL M31734; AAA80535.1; -  
 DR EMBL M31734; AAA80534.1; -  
 DR EMBL M31736; AAA31545.1; -  
 DR EMBL M31735; AAA31546.1; -  
 DR EMBL M31735; AAA31547.1; -  
 DR EMBL M69472; AAA49230.1; -  
 DR EMBL M69473; AAA49230.1; JOINED.  
 DR EMBL M69474; AAA49230.1; JOINED.  
 DR EMBL M69475; AAA49230.1; JOINED.  
 DR EMBL M69472; CAA49231.1; -  
 DR EMBL M69473; CAA49231.1; JOINED.  
 DR EMBL M69474; CAA49231.1; JOINED.  
 DR EMBL M69475; CAA49231.1; JOINED.  
 DR EMBL M69473; CAA49232.1; -  
 DR EMBL M69474; CAA49232.1; JOINED.  
 DR EMBL M69475; CAA49232.1; JOINED.  
 DR EMBL M89787; AAA31544.1; -  
 DR PIR S22877; A33390.  
 DR HSSP: P01343; IGF1.  
 DR InterPro: IPR004825; Ins/IGF/relax.  
 DR Pfam: PF00049; Insulin; 1.  
 DR PRINTS: PR00277; INSULINB.  
 DR SMART: SM00078; IIGF; 1.  
 DR PROSITE: PS00262; INSULIN; 1.  
 KW Insulin family; Growth factor; Plasma; Signal; Alternative splicing.

FT SIGNAL 1 49  
 FT PROPEP 2 49  
 FT CHAIN 50 119 INSULIN-LIKE GROWTH FACTOR I.  
 FT DOMAIN 50 78 B.  
 FT DOMAIN 79 90 C.  
 FT DOMAIN 91 111 A.  
 FT DOMAIN 112 119 D.  
 FT PROPEP 120 154 E PEPTIDE.  
 FT DISULFD 55 97 BY SIMILARITY.  
 FT DISULFD 67 110 BY SIMILARITY.  
 FT DISULFD 96 101 BY SIMILARITY.  
 FT VARSPLIC 1 21 MGKISSLPQLKCCFCDFLK -> MWTPT (in  
 isoform C).  
 FT VARSPLIC 1 34 Missing (in isoform A).  
 FT CONFLICT 57 57 /FTId=VSP\_002707.  
 FT SEQUENCE 154 AA; 17012 MW; E226CE6AF653CF3F CRC64;  
 SQ

Query Match 76.1%; Score 455; DB 1; Length 154;  
 Best Local Similarity 97.7%; Pred. No. 8, 5e-42;  
 Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GPEITLCAEIVDALQVFCSDRGFYFNKPTGYSSSRAPQGTIVDECCFSSCDLRLEMY 60  
 DB 50 GPEITLCAEIVDALQVFCSDRGFYFNKPTGYSSSRAPQGTIVDECCFSSCDLRLEMY 109  
 QY 61 CAPLKPAKSARSVVAQRHTDMPKTK 86  
 DB 110 CAPLKPAKSARSVVAQRHTDMPKTK 135

RESULT 12  
 ID IGFA RAT STANDARD; PRT; 153 AA.  
 AC P08025;  
 DT 01-AUG-1988 (Rel. 08, Created)  
 DT 01-FEB-1991 (Rel. 17, Last sequence update)  
 DT 10-OCT-2003 (Rel. 42, Last annotation update)

DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).  
 GN IGF1 OR IGF-1.  
 OS Rattus norvegicus (Rat).  
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.  
 NCBI\_TaxId=10116;  
 RN [1]  
 RX SEQUENCE FROM N.A. PubMed=3034909;  
 RX MEDLINE=87222423;  
 RA Shimatsu A., Rotwein P.;  
 RT "Mosaic evolution of the insulin-like growth factors. Organization,  
 RT sequence, and expression of the rat insulin-like growth factor I  
 RT gene";  
 RL J. Biol. Chem. 262:7894-7900(1987).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Testis;  
 RX MEDLINE=88003970; PubMed=3652906;  
 RA Casella S.J., Smith E.P., van Wyk J.J., Joseph D.R., Hynes M.A.,  
 RA Hoyt E.C., Lund P.K.;  
 RT "Isolation of rat testis cDNAs encoding an insulin-like growth factor  
 RT I precursor";  
 RL DNA 6:325-330(1987).  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=91103966; PubMed=1368571;  
 RA Kato H., Okoshi A., Mura Y., Noguchi T.;  
 RT "A new cDNA clone relating to larger molecular species of rat  
 RT insulin-like growth factor-I mRNA";  
 RL Agric. Biol. Chem. 54:1593-1601(1990).  
 RN [4]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=89127259; PubMed=3221878;  
 RA Roberts C.T., Laskey S.R., Lowe W.L., Seaman W.T., Lerohl D.;  
 RT "Structure of the rat insulin-like growth factor II transcriptional  
 RT unit: heterogeneous transcripts are generated from two promoters by  
 RT use of multiple polyadenylation sites and differential ribonucleic  
 RT acid splicing";  
 RL Mol. Endocrinol. 2:1115-1126(1988).  
 RN [5]  
 RP SEQUENCE OF 46-153 FROM N.A.  
 RX MEDLINE=87246437; PubMed=3595538;  
 RA Murphy L.J., Bell G.I., Duckworth M.L., Friesen H.G.;  
 RT "Identification, characterization, and regulation of a rat  
 RT complementary deoxyribonucleic acid which encodes insulin-like growth  
 RT factor-I";  
 RL Endocrinology 121:684-691(1987).  
 RN [6]  
 RP SEQUENCE OF 49-118.  
 RX MEDLINE=89174609; PubMed=2538424;  
 RA Tamura K., Kobayashi W., Ishii Y., Tamura T., Hashimoto K.,  
 RA Nakamura S., Nawa M., Zapp J.;  
 RT "Primary structure of rat insulin-like growth factor-I and its  
 RT biological activities";  
 RL J. Biol. Chem. 264:5616-5621(1989).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 CC are structurally and functionally related to insulin but have a  
 CC much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- ALTERNATIVE PRODUCTS:  
 CC Event=Alternative splicing; Named isoforms=2;  
 CC Name=IGF-IA;  
 CC IsoId=P08025-1; Sequence=Displayed;  
 CC Name=IGF-IB;  
 CC IsoId=P08024-1; Sequence=External;  
 CC -1- SIMILARITY: Belongs to the insulin family.  
 CC -----  
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 CC -----  
 DR EMBL; X06043; CAA29436.1; -  
 DR EMBL; M15651; AAA41215.1; -  
 DR EMBL; M15647; AAA41215.1; JOINED.  
 DR EMBL; M15648; AAA41215.1; JOINED.  
 DR EMBL; M15649; AAA41215.1; JOINED.  
 DR EMBL; M17714; AAA41227.1; -  
 DR EMBL; M17335; AAA41386.1; ALT\_INT.  
 DR EMBL; M15481; AAA41387.1; ALT\_INT.  
 DR PIR; B27804; B27804.  
 DR HSSP; P01343; IGF1.  
 DR InterPro; IPR004825; Ins/IGF/relax.  
 DR Pfam; PF00049; Insulin; 1.  
 DR PRINTS; PR00277; Insulin; 1.  
 DR SMART; SM00078; IIGF; 1.  
 DR PROSITE; PS00262; INSULIN; 1.  
 KW Insulin family; Growth factor; Plasma; Alternative splicing; Signal.  
 FT SIGNAL 1 ? ?  
 FT PROPEP 49 118 INSULIN-LIKE GROWTH FACTOR IA.  
 FT CHAIN 49 118 B.  
 FT DOMAIN 78 89 C.  
 FT DOMAIN 90 110 D.  
 FT DOMAIN 111 118 A.  
 FT PROPEP 119 153 E. PEPTIDE.  
 FT DISULFID 54 96 BY SIMILARITY.  
 FT DISULFID 66 109 BY SIMILARITY.  
 FT DISULFID 95 100 BY SIMILARITY.  
 FT CONFLICT 110 112 APL -> VRC (IN REF. 4).  
 SQ SEQUENCE 153 AA; 17079 MW; 966F3C0FA4EB3DE7 CQC64;  
 QY 1 GPEITCGAEVDALFVCGDGRFYFNKRTGYGSSRRAPQGIYDECCFSCDRLREMY 60  
 DB 49 GPEITCGAEVDALFVCGDGRFYFNKRTGYGSSRRAPQGIYDECCFSCDRLREMY 108  
 QY 61 CAPLKPAKARSRAQRTDMPKTK 86  
 DB 109 CAPLKPAKARSRAQRTDMPKTK 134  
 DB  
 RESULT 13  
 IGFA\_MOUSE STANDARD; PRT; 127 AA.  
 AC P05017;  
 DT 13-AUG-1987 (Rel. 05. Created)  
 DT 13-AUG-1987 (Rel. 05. Last sequence update)  
 DE 10-OCT-2003 (Rel. 42. Last annotation update)  
 DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).  
 GN IGF1 OR IGF-1.  
 OS Mus musculus (Mouse).  
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
 NCBI\_TaxId=10090;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Liver;  
 RX MEDLINE=87040760; PubMed=3774549;  
 RA Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;  
 RT "Sequences of liver cDNAs encoding two different mouse insulin-like  
 RT growth factor I precursors";  
 RL Nucleic Acids Res. 14:7873-7882(1986).  
 CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,  
 CC are structurally and functionally related to insulin but have a  
 CC much higher growth-promoting activity.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- ALTERNATIVE PRODUCTS:  
 CC Event=Alternative splicing; Named isoforms=2;  
 CC Name=IGF-IA;  
 CC IsoId=P05017-1; Sequence=Displayed;



```
CC IsoId=P05017-1; Sequence=Displayed;
CC Name=IGF-1B;
CC IsoId=P05018-1; Sequence=External;
CC -1- SIMILARITY: Belongs to the insulin family.
CC -----
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CC -----
CC EMBL: X04480; CAA28168.1; -.
CC PIR: A25540; A25540.
CC HSSP: P01343; IGF1.
CC MCD; MG1:96432; IGF1.
CC GO; GO:0010001; P:glial cell differentiation; IMP.
CC InterPro; IPR004825; Ins/IGF/relax.
CC Pfam; PF00049; Insulin; 1.
CC PRINTS; PR00277; INSULINB.
CC SMART; SM00078; IIGF; 1.
CC PROSITE; PS00262; INSULIN; 1.
CC Insulin family; Growth factor; Plasma; Alternative splicing; signal.
CC SIGNAL 1 22
CC FT CHAIN 23 92 INSULIN-LIKE GROWTH FACTOR 1A.
CC FT DOMAIN 23 51 B.
CC FT DOMAIN 52 63 C.
CC FT DOMAIN 64 84 A.
CC FT DOMAIN 85 92 D.
CC FT PROPEP 93 127 E PEPTIDE.
CC FT DISULFID 28 70 BY SIMILARITY.
CC FT DISULFID 40 83 BY SIMILARITY.
CC FT DISULFID 69 74 BY SIMILARITY.
CC SQ SEQUENCE 127 AA; 14120 MM; 1054B8C6C72DCD7 CRC64;

Query Match 74.7%; Score 447; DB 1; Length 127;
Best Local Similarity 94.2%; Pred. No. 4.9e-41;
Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 1 GPELTGAEVLDALOFVCGDRGFYFNKPTGYSRRAPOTGIVDECCFSCDRLREMY 60
DB 23 GPELTGAEVLDALOFVCGDRGFYFNKPTGYSRRAPOTGIVDECCFSCDRLREMY 82
QY 61 CAPLKPAKSARSVRAQRHTDMPKTK 86
DB 83 CAPLKPAKSARSVRAQRHTDMPKTK 108

RESULT 14
IGF1_COTUA STANDARD; PRT; 124 AA.
ID IGF1_COTUA
AC P51462;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE (Fragment).
GN IGF1.
OS Coturnix coturnix japonica (Japanese quail).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Coturnix.
OC NCBI_TaxID=93934;
OX NCBI_TaxID=93934;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=95187621; PubMed=7881819;
RA Kida S., Iwaki M., Nakamura A., Miura Y., Takenaka A., Takahashi S.,
RA Noguchi T.;
RT "Insulin-like growth factor-I messenger RNA content in the oviduct of
RT Japanese quail (Coturnix coturnix japonica): changes during growth
RT and development or after estrogen administration.";
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RL Comp. Biochem. Physiol. 109C:191-204(1994).
CC -1- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC are structurally and functionally related to insulin but have a
CC much higher growth-promoting activity.
CC -1- SIMILARITY: Belongs to the insulin family.
CC -----
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CC -----
CC EMBL: S75247; -, NOT_ANNOTATED_CDS.
CC HSSP: P01343; IGF1.
CC InterPro; IPR004825; Ins/IGF/relax.
CC Pfam; PF00049; Insulin; 1.
CC PRINTS; PR00277; INSULINB.
CC SMART; SM00078; IIGF; 1.
CC PROSITE; PS00262; INSULIN; 1.
CC Insulin family; Growth factor; Plasma.
CC NON_TER 1 1
CC FT PROPEP <1 19 POTENTIAL.
CC FT CHAIN 20 89 INSULIN-LIKE GROWTH FACTOR I.
CC FT DOMAIN 20 48 B.
CC FT DOMAIN 49 60 C.
CC FT DOMAIN 61 81 A.
CC FT DOMAIN 82 89 D.
CC FT PROPEP 90 124 E PEPTIDE.
CC FT DISULFID 25 67 BY SIMILARITY.
CC FT DISULFID 37 80 BY SIMILARITY.
CC FT DISULFID 66 71 BY SIMILARITY.
CC SQ SEQUENCE 124 AA; 13868 MM; 52254EB1BA52C3B6 CRC64;

Query Match 70.6%; Score 422; DB 1; Length 124;
Best Local Similarity 89.5%; Pred. No. 2.3e-38;
Matches 77; Conservative 3; Mismatches 6; Indels 0; Gaps 0;

QY 1 GPELTGAEVLDALOFVCGDRGFYFNKPTGYSRRAPOTGIVDECCFSCDRLREMY 60
DB 20 GPELTGAEVLDALOFVCGDRGFYFNKPTGYSRRAPOTGIVDECCFSCDRLREMY 79
QY 61 CAPLKPAKSARSVRAQRHTDMPKTK 86
DB 80 CAPLKPAKSARSVRAQRHTDMPKTK 105

RESULT 15
IGF1_CHICK STANDARD; PRT; 153 AA.
ID IGF1_CHICK
AC P18254;
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-NOV-1990 (Rel. 16, Last sequence update)
DT 10-OCT-2003 (Rel. 42, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1.
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OC NCBI_TaxID=90311;
OX NCBI_TaxID=90311;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90190648; PubMed=2628728;
RA Kajimoto Y., Rotwein P.;
RT "Structure and expression of a chicken insulin-like growth factor I
RT precursor.";
RL Mol. Endocrinol. 3:1907-1913(1989).
RN [2]
RP SEQUENCE OF 1-21 FROM N.A.
RX MEDLINE=91236750; PubMed=2033062;
```

```

RA Rotwein P., Kajimoto Y.;
RT "Structure of the chicken insulin-like growth factor I gene reveals
RL conserved promoter elements."
RL J. Biol. Chem. 266:9724-9731(1991).
[3]
RP SEQUENCE OF 49-118.
RX MEDLINE=91106695; PubMed=2272467;
RA Ballard F.J., Johnson R.J., Owens P.C., Francis G.L., Upton F.M.,
RA McMurry J.P., Wallace J.C.;
RT "Chicken insulin-like growth factor-I: amino acid sequence,
RT radioimmunoassay, and plasma levels between strains and during
RT growth."
RL Gen. Comp. Endocrinol. 79:459-468(1990).
CC -I- FUNCTION: The insulin-like growth factors, isolated from plasma,
CC are structurally and functionally related to insulin but have a
CC much higher growth-promoting activity.
CC -I- SUBCELLULAR LOCATION: Secreted.
CC -I- SIMILARITY: Belongs to the insulin family.
CC -----
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CC -----
DR EMBL; M32791; AAA48828.1; -.
DR EMBL; M74176; AAA48829.1; -.
DR PIR; A41399; A41399.
DR HSSP; P01343; IGF1.
DR InterPro; IPR004825; Ins/IGF/relax.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00277; INSULINB.
DR SMART; SM00078; IGF. 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Signal.
FT SIGNAL 1 48
FT PROPEP 1 48
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 153 B. PEPTIDE.
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
SQ SEQUENCE 153 AA; 17267 MW; AA13FDEB13EE2F8 CRC64;

Query Match 70.6%; Score 422; DB 1; Length 153;
Best Local Similarity 89.5%; Pred. No. 2.9e-38;
Matches 77; Conservative 3; Mismatches 6; Indels 0; Gaps 0;

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QY 1 GPETLGGALVDALQFVCGDGRGFYFNKPTGYGSSRRAPFQGIYDECCFRSCDLRLLEY 60  
 DB 49 GPETLGGALVDALQFVCGDGRGFYFNKPTGYGSSRRALHKGIVDECCFGSCDLRLLEY 108  
 QY 61 CAPLKPAAKASRSVRAQRHTDMPKTK 86  
 DB 109 CAPLKPAAKASRSVRAQRHTDMPKAK 134

Search completed: March 3, 2004, 08:05:41  
 Job time : 7.95181 secs